INLAND PRODUCTION COMPANY
Denver, Colorado

10-INCH NATURAL GAS GATHERING PIPELINE PROJECT ENVIRONMENTAL ASSESSMENT

Prepared for
U.S. Department of the Interior
Bureau of Land Management
Vernal Field Office
Vernal, Utah

February 2004

United States Department of the Interior
BUREAU OF LAND MANAGEMENT
Vernal Field Office
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TAKE PRIDE IN AMERICA

IN REPLY REFER TO:
2880
UTU-80322
(UT-084)

Dear Reader:

Enclosed for your review and comment is the environmental assessment (EA) for Inland Production Company's right-of-way grant application for a proposed ten inch diameter natural gas gathering pipeline project, EA #UT-080-2004-0144. This document analyzes the proposed action and the no action alternative.

The Bureau of Land Management (BLM) Vernal Field Office invites you to comment on this document, particularly with respect to the adequacy of the analysis of environmental impacts. The public comment period ends on March 15, 2004. Please refer to EA #UT-080-2004-0144 in your correspondence.

Comments, including names and street addresses of respondents will be available for public review at the BLM Vernal Field Office and will be subject to disclosures under the Freedom of Information Act (FOIA). They may be published as part of the EA and other related documents. Individual respondents may request confidentiality. If you wish to withhold your name or street address from public review and disclosure under FOIA, you must state this prominently at the beginning of your written comment. Such requests will be honored to the extent allowed by law. All submissions from organizations or businesses will be made available for public inspection in their entirety.

The EA was prepared in accordance with the National Environmental Policy Act with the BLM directing the preparation of the document. The EA provides an assessment of the potential impacts of Inland Production Company's proposed project. These and other EAs prepared by the BLM Vernal Field Office can also be reviewed on the Vernal Field Office's website at http://www.blm.gov/utah/vernal.

For further information concerning the EA, please contact Peter Kempenich, Natural Resource Specialist at 435.781.4432.

Sincerely,

Howard B. Cleavinger II
Acting Field Manager

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1.0 INTRODUCTION

Inland Production Company (Inland) is proposing to install an approximately 9-mile-long, 10-inch-diameter, steel, low-pressure natural gas surface gathering pipeline along existing road and pipeline rights-of-way (ROW) in Duchesne and Uintah counties, Utah. This Environmental Assessment (EA) evaluates this proposal. The proposed line would cross portions of the following sections:

- Section 31; Township (T) 8 South (S), Range (R) 18 East (E);
- Sections 31, 32, 33, 34, 35, and 36; T8S, R17E; and
- Sections 25 and 36; T8S, R16E.

See **Figure 1-1**, Proposed Pipeline Site Location Map for the location of the proposed pipeline and associated staging areas. With the exception of Sections 36 and 32, T8S, R17E, and Section 36, T8S, R16E, which are managed by the State of Utah, the Proposed Project area lies within lands managed by the U.S. Department of the Interior, Bureau of Land Management's (BLM) Vernal Field Office. The proposed pipeline construction ROW would be 10 feet wide and construction activities are anticipated to begin in Spring 2004 and extend approximately 90 days. Eleven staging areas approximately 50 by 100 feet would be used along the ROW to facilitate construction. All but two of these areas would lie in previously disturbed sites.

No wetlands, perennial streams, or other permanent water bodies would be crossed by the proposed pipeline. No additional compression would be required.

1.1 Purpose and Need for the Proposed Action

The proposed 10-inch-diameter pipeline would provide needed gathering capacity to previously permitted development in the eastern end of the Monument Butte Oil and Gas Field. Construction of the pipeline also would result in lower pressures at existing producing wells that are gathered by this system and would extend the low-pressure system eastward. Lower backpressure would result in increased production from the affected wells and may reduce or eliminate the need for an additional compressor station in the eastern portion of the Monument Butte Oil and Gas Field. In addition, since several smaller surface lines would be replaced by the proposed route, the amount of existing surface poly line would be reduced.

1.2 Conformance with Applicable Statues, Regulations, and Land Use Plans

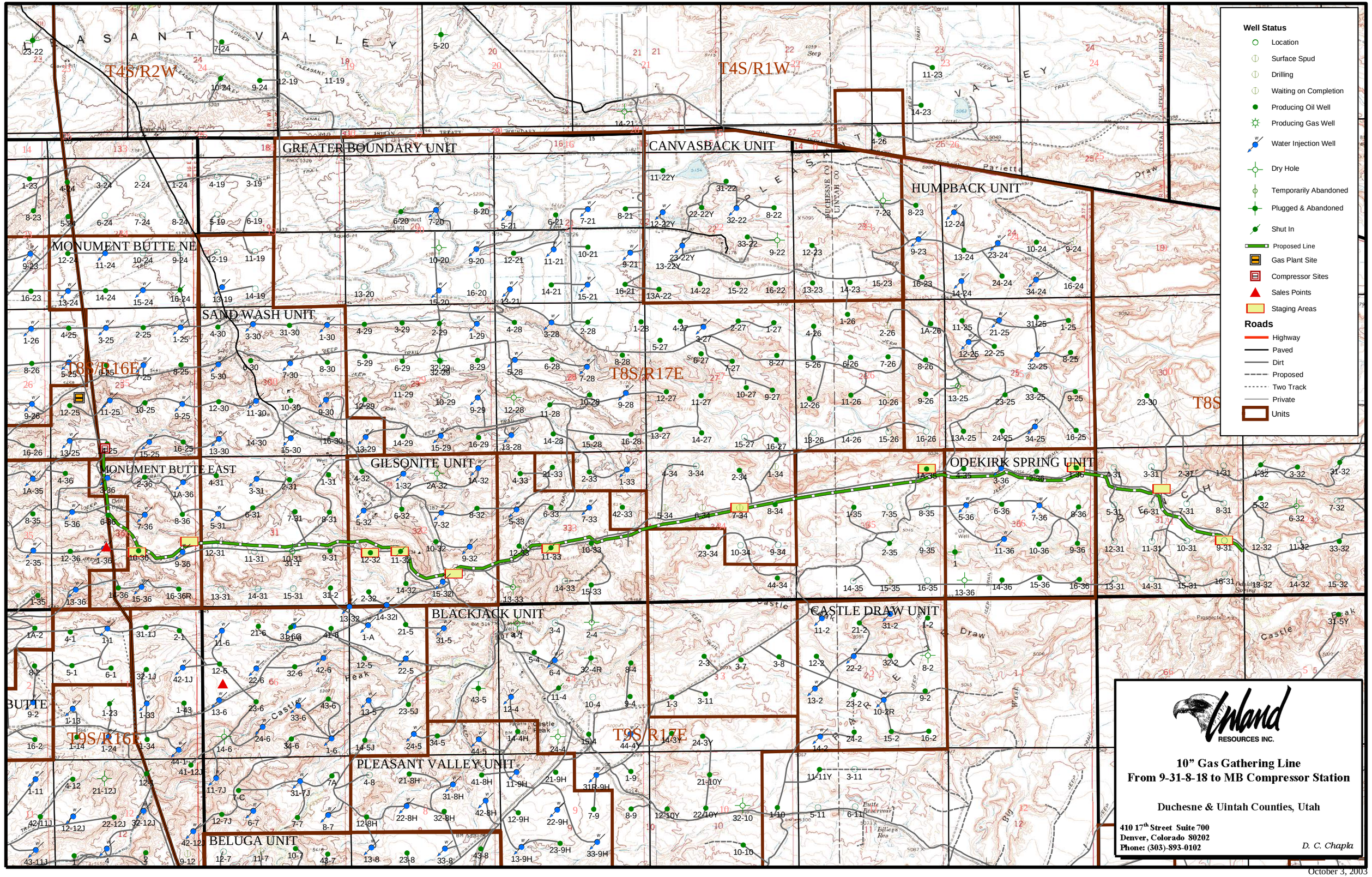
The majority of the proposed pipeline would be located on federal lands managed by the BLM. The project is located within the BLM land management planning area covered by the Diamond Mountain Resource Area Resource Management Plan (RMP) (BLM 1994) and the Vernal District

Office of the BLM would be involved in this ROW decision. The RMP was reviewed to determine if the Proposed Action would conform with the land use plan terms and conditions as required under 43 Code of Federal Regulations (CFR) 1610.5. This review confirmed that the Proposed Action would be in conformance since, according to the RMP, the BLM sections where the Proposed Action would be located are open to oil and gas leasing and development with stipulations to protect surface resources (Category 2).

This action also would be consistent with other Federal, State, and local laws, regulations, and plans.

1.3 Interrelated Projects

A more detailed cumulative effects analysis for the area is currently being prepared for the Castle Peak and Eightmile Flat Oil and Gas Field in an environmental impact statement (EIS) that is in progress. This EIS would address regional effects related to oil and gas expansion in more detail than is presented in this EA and covers the area where the Proposed Action would be located. At present, no additional project developments have been identified in the immediate project area as being directly related to the Proposed Action.


T4S/R2W
T4S/R1W
T8S/R16E
T8S/R17E
T9S/R16E
T9S/R17E
GREATER BOUNDARY UNIT
CANVASBACK UNIT
HUMPBACK UNIT
MONUMENT BUTTE NE
SAND WASH UNIT
MONUMENT BUTTE EAST
GILSONITE UNIT
ODEKIRK SPRING UNIT
BLACKJACK UNIT
CASTLE DRAW UNIT
PLEASANT VALLEY UNIT
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Well Status
Location
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Water Injection Well
Dry Hole
Temporarily Abandoned
Plugged & Abandoned
Shut In
Proposed Line
Gas Plant Site
Compressor Sites
Sales Points
Staging Areas
Roads
Highway
Paved
Dirt
Proposed
Two Track
Private
Units
Inland RESOURCES INC.
10" Gas Gathering Line
From 9-31-8-18 to MB Compressor Station
Duchesne & Uintah Counties, Utah
410 17th Street Suite 700
Denver, Colorado 80202
Phone: (303)-893-0102
D. C. Chapla
October 3, 2003

2.0 PROPOSED ACTION AND ALTERNATIVES

2.1 Proposed Action

The proposed 10-inch-diameter, natural gas surface gathering pipeline would begin at the section line just southeast of Well Pad Site 9-31-8-18 (NE/SE Section 31, T8S, R18E), and would follow existing roads and pipeline ROWs west for 46,600 feet (or 8.83 miles) to the existing compressor station located in the Monument Butte East Unit (SE/SW, Section 25, T8S, R16E) (see **Figure 1-1**). In addition to the pipeline, eleven temporary staging areas would be used to facilitate construction of the pipeline (see **Figure 1-1**). The staging areas would be approximately 50 feet by 100 feet in size. All but three of these areas would be placed in previously disturbed locations associated with well pad development or existing roadwork. The three previously undisturbed areas would be at the following sites:

1) To the east of Well Pad Site 15-32-8-17 on the southeast corner of the intersection of Sand Wash/Pleasant Valley Road and a major east/west-running gravel road.

2) North of Well Pad Site 6-31-8-18 at the intersection of two existing gravel roads.

3) At Well Pad Site 9-31-8-18. This well pad had not been built at the time of release of this report; however, approval for construction is imminent.

Staging areas located on previously disturbed sites would include:

1) Well Pad Site 10-36;
2) Well Pad Site 12-32;
3) Well Pad Site 11-32;
4) Well Pad Site 11-33;
5) Well Pad Site 1A-35;
6) Well Pad Site 1-36;
7) An already disturbed area (wide spot in the road) just east of the 9-36 location; and
8) Well Pad Site 7-34.

These staging areas would allow for all pipe to be welded, dragged, and lifted to the ROW with minimum impact on the ROW. The only previously undisturbed area on the ROW with associated cross-country travel would be an area north of Well Pad Site 15-32. A dozer would only be required to drag pipe across this area to avoid an archaeological site located to the north of the ROW. All other areas along the ROW would be able to be worked from existing roadways. There would be approximately 22 connections to the 10-inch gathering pipeline from other existing lines.

No new roads or other surface disturbance are associated with the Proposed Action. No additional compressors or compression facilities would be built as part of this Proposed Action.

2.1.1 Access

Access to the proposed pipeline route would be via existing Uintah County-maintained graded roads and existing lease roads that have an average travel surface width of 18 to 24 feet. Since the existing lease roads in the area are currently in acceptable travel condition, no road upgrades or construction of new access roads as part of the Proposed Action would be required. Existing maintained roads along the proposed route would be maintained in the same or better condition than existed prior to the commencement of operations.

2.1.2 Construction Techniques

The proposed 10-inch diameter pipeline would be constructed of steel 0.188 wall welded pipe. Its operating pressure would not exceed 75 pounds per square inch, gauge. The line would have a location classification of Class 1 Division 1, and would be constructed and tested per American Society for Testing and Materials B31.8 (Gas Transmission and Distribution Systems) 1992 edition specifications.

2.1.2.1 Pipeline Installation

Prior to installation, the ROW centerline would be surveyed and staked on 200-foot centers. Along the majority of the pipeline route, lengths of pipe would be strung out in existing roadway ditches located adjacent to the proposed ROW or on existing roadways, welded together, and rolled or dragged into place with heavy equipment. The proposed pipeline would be installed above ground**,** except at road crossings**,** and would remain unpainted. No clearing or grading of the ROW would be required. It is anticipated that a 10-foot-wide ROW would be sufficient for pipeline construction, with the exception of an approximately 300 foot section where the ROW parallels an existing waterline ROW between well pad sites 9-33-8-17 and 5-34-8-17. In this area, the natural gas pipeline ROW would increase in size to approximately 25 feet wide.

No installation activities would be performed during periods when the soil is too wet to adequately support installation equipment. If equipment creates ruts in excess of 3 inches deep, the soil would be deemed too wet to adequately support the equipment.

Where other existing roads or pipelines are crossed by the proposed pipeline, the proposed pipeline would be buried to a minimum depth of 36 inches below the surface and coated and cathodically protected. Silt fences would be placed as appropriate. Roadways would be returned to their original grades and surfaces**.** Where the proposed pipeline crosses dry washes, it would

be suspended from bank to bank above the 100-year floodplain elevation as specified in the BLM's *Hydraulic Considerations for Pipeline Crossings of Stream Channels* (BLM 2003a).

Poly pipe currently used to transport a portion of the gas along the ROW would be removed once placement of the new 10-inch pipeline is completed and gas routing has been transferred to the new line.

2.1.2.2 Pipeline Pressure Testing

After installation, the pipeline would be pressure tested with either water or natural gas to ensure pipeline integrity. The pipe would be tested in accordance with the appropriate American Petroleum Institute standards for pipelines. If water is used, the source for hydrostatic test water would be Johnson Water District via Inland Production Company's existing water tap agreements. Approximately 4,600 barrels (bbls) would be used in the testing.

Following the completion of testing, test water would be collected in a steel tank and transported by truck to the existing Beluga Injection Station for use in reinjection operations.

During the initial pipeline installation and testing phase, the pipeline would be visually inspected for leaks on a daily basis. Once the testing phase is completed, the pipeline would be visually inspected monthly.

2.1.2.3 Waste Management

A portable, self-contained chemical toilet would be provided on location during construction. Upon completion of operations, or as required, the contents of toilet holding tanks would be disposed of at an authorized sewage treatment and disposal facility. Disposal would be in accordance with State of Utah and Uintah County rules and regulations regarding sewage treatment and disposal.

All refuse (trash and other solid waste, including cans, paper, cable, etc.) generated during construction and testing activities would be contained in an enclosed receptacle, removed from the location promptly, and hauled to an authorized disposal site.

Immediately after completion of construction, all debris and other waste materials not contained within trash barrels would be cleaned up and removed from the location.

2.1.2.4 Work Force and Equipment Requirements

The Proposed Action would employ 5 to 6 people full time for the duration of the project (approximately 90 days). Equipment would include a one-ton truck, two welding trucks, one

backhoe, and one caterpillar tractor to drag pipe onto the ROW. A semi-truck and a trailer would be used to deliver pipe along the route.

2.1.3 Operation and Closure

2.1.3.1 Operation, Reclamation, and Revegetation

After installation of the pipeline and cessation of construction activities, vegetative cover would be re-established in any areas of incidental surface disturbance and specific disturbance areas identified by BLM as needing revegetation. The type of reclamation seed mix and rates of application to be applied would be provided by BLM during an on-site inspection. Revegetation efforts would comply with BLM specifications. Seed would be drilled on the contour to an appropriate depth or broadcast and "walked" into the soil with tracked heavy equipment. The reseeding of disturbed areas would be completed within 180 days of the completion of construction activities or at a time deemed appropriate by the BLM.

Roadways disturbed during pipeline placement would be graded and returned to their original configurations.

The pipeline would be periodically "pigged" to remove hydrogen liquids (condensates) that accumulated in the line. A "pig" device would be run through the length of the pipeline to sweep liquids to the existing compressor station for removal. Condensate collected at the compressor station would either be sold or used in "hot oiling" processes at Inland's wells to reduce paraffin buildup.

2.1.3.2 Closure and Restoration

Upon abandonment of the pipeline, a Notice of Intent to Abandon would be filed with the BLM for final recommendations regarding surface reclamation. After abandonment of the associated production facilities, the gas pipeline would be cut and removed, and any surface disturbance reclaimed according to BLM specifications.

At the time of final abandonment, the intent of reclamation would be to return disturbed areas to near natural conditions. No surface disturbance should have occurred as part of the proposed operation; however, if any incidental areas are disturbed, these areas would be recontoured to the approximate natural contours, with reclamation to be performed within 6 months, weather permitting, after final abandonment. The surface of disturbed areas would be recontoured to match the surrounding terrain as closely as possible. Disturbed areas would be restored as near as practical to their original condition. Where applicable, these conditions may include the reestablishment of natural drainage systems, the reestablishment of appropriate soil conditions,

and the reestablishment of vegetation as specified. Native seed mixes as approved by the BLM would be used on incidentally disturbed areas, if necessary.

Dry mulch may be one method used to help improve the re-establishment of desired native plant communities. If straw or hay mulch is used, the straw or hay would be certified "weed-free" and the certification documentation submitted to the BLM prior to its application.

2.1.4 Applicant-committed Environmental Protection Measures

The following protective measures have been adopted by Inland to address specific resource values and environmental concerns associated with the project. All operations would be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil & Gas Orders, the approved Application for Permit to Drill, and any applicable Notice to Lessees.

2.1.4.1 Uinta Basin Hookless Cactus

The ROW and staging areas were surveyed for cactus on September 10, 2003, by a biologist from ENSR International. One individual less than 3 inches in height was identified during this survey as lying within the proposed ROW. Inland, with the assistance of an onsite biologist as approved by the BLM, would relocate the pipe approximately 10 feet to the south to avoid disturbing this plant. If previously unidentified cacti are found during construction, Inland would notify the BLM and attempt to relocate the ROW to avoid the individuals. If relocation is not feasible, Inland would work with the BLM to determine the most appropriate mitigation, which may include transplanting the cactus or collecting. (See Appendix A, Table A-1, for more information on the Uinta Basin hookless cactus.)

2.1.4.2 Control of Noxious Weeds

To prevent the spread of noxious weed seed, especially Russian knapweed, construction equipment and vehicles would be power washed prior to coming into the project area. During operation, the pipeline corridor would be inspected monthly by the operator to ensure that noxious weeds do not become established. Control methods would be based on available technology, taking into consideration the weed species present, BLM requirements, and local regulations. Native seed mixes as approved by the BLM would be used on incidentally disturbed areas, if necessary.

2.1.4.3 Erosion

No installation activities would be performed during periods when the soil is too wet to adequately support installation equipment. If such equipment creates ruts in excess of 3 inches deep, the soil would be deemed too wet to adequately support the equipment.

2.1.4.4 Migratory Birds

If the proposed pipeline construction period coincides with the breeding and nesting season for migratory birds (April 1 to July 31), Inland would contract a qualified biologist approved by the BLM to conduct a passerine and other migratory bird survey within 200 meters of proposed disturbance areas. The biologist would provide documentation of active nests, bird species, and other evidence of nesting (e.g., mated pairs, territorial defense) to the BLM following the survey and prior to construction. If an active nest for Important Migratory Bird Species (U.S. Fish and Wildlife Service [USFWS] Birds of Conservation Concern, Partners in Flight Priority Bird Species, and Utah Sensitive Species) is documented during the survey, Inland would coordinate with the BLM to determine if any additional protection measures would be required. If applicable, appropriate protection measures, including establishment of buffer areas and constraint periods, would be implemented on a case-by-case and species-specific basis. A list of important migratory bird species is provided in Appendix A.

2.1.4.5 Terrestrial Wildlife Species

Motorized travel would take place only on existing roadways and designated routes with no cross-country travel permitted. In addition, in wildlife concentration areas as designated by the BLM the pipeline would be elevated 12 inches every 250 feet using railroad ties securely fastened to the pipeline to facilitate dispersal movements across the pipeline ROW by small birds, reptiles, and mammals.

2.1.4.6 Raptors

If construction of the proposed pipeline coincides with the raptor breeding and nesting season (February 1 to August 15), raptor nest surveys would be completed by a BLM-authorized biologist within 0.5 mile of the ROW centerline prior to commencement of ROW construction. Several surveys may be necessary during the construction period to determine the presence or absence of nesting birds since nesting can occur at varying times for different species. If raptor nesting activity is documented during the surveys, Inland would coordinate with the BLM to determine if additional protection measures would be required. If applicable, these measures could include additional monitoring, and establishment of buffer areas or constraint periods, and would be implemented on a case-by-case and species-specific basis.

2.1.4.7 Mountain Plover

If construction of the proposed pipeline coincides with the mountain plover breeding and nesting season (March 15 to August 15), presence/absence surveys following the 2002 United States Fish and Wildlife Service (USFWS) plover survey protocol would be conducted by a BLM-authorized biologist prior to initiation of proposed construction. If mountain plover or mountain plover nest sites are discovered, no new construction or surface-disturbing activities would be conducted during the mountain plover breeding and nesting season. Motorized travel in identified plover habitat would take place only on designated routes with no cross-country travel permitted. Maintenance would be avoided between May 1 and June 15 to avoid hazards to developing chicks.

2.1.4.8 Green River Special Status Fish Species

A "pig" device would be periodically run through the pipeline to force condensate out of the pipe and into the existing compressor station for removal from the system. This regular purging effort should reduce the volume of condensate present at any one time in the pipeline and should eliminate the potential for a large volume spill of condensate into the large unnamed drainages to Pariette Wash and the Green River that the pipeline would cross in Section 36, T8S, R16E. Reducing the amount of condensate should reduce or eliminate potential effects to special status fish species from potential pipeline ruptures in drainages that ultimately drain into the Green River (see the risk assessment discussion in Appendix B for more detail on the potential for condensate to reach the Green River during a potential spill event).

2.1.4.9 Cultural and Paleontology Resources

A cultural site survey has been completed along the proposed ROW and at all but one of the staging areas. Based on the results of the surveys, portions of the project were relocated to avoid identified sites or to avoid disturbing previously undisturbed ground. The staging area located east of well site 15-32, which had not been surveyed at the time of the report, would be surveyed prior to commencement of construction.

To prevent accidental disturbance to known sites, barrier fencing has been placed around recommended eligible sites crossed by the ROW or located adjacent to the ROW. As described in the 2003 cultural survey report for the project (Montgomery Archaeological Consultants 2003), a total of approximately 1,200 feet of the ROW would be buried in existing roadways to avoid disturbing significant portions of known cultural sites (42Dc426 and 42Un2568). If requested by the BLM, cultural monitors, as approved by the BLM, would be present during construction at designated cultural sites.

The ROW area also has been surveyed for paleontological resources with the following exceptions:

- Section 36, T8S, R16E;
- Eastern half of Section 31, T8S, R17E;
- Section 32, T8S, R17E;
- Western half of Section 33, T8S, R17E;
- Northern half of Section 34, T8S, R17E; and
- The staging areas located near well sites 9-36, 15-32, and 3-31.

As requested by the BLM, these areas will be surveyed prior to construction for paleontological deposits.

Inland has committed to informing project personnel about the sensitive nature of cultural and paleontological resources and the statutes protecting them and has instructed personnel not to conduct illegal collecting. Vehicular travel would be permitted only on existing roads and designated routes. If previously unidentified sites are located on the ROW, construction would be halted until the BLM's Authorized Officer could be contacted (within 24 hours) to evaluate the site. If the sites are identified by the BLM as significant, potential impacts would be mitigated through avoidance or other measures agreed to by the agencies and Inland.

2.1.4.10 Hazardous Materials Management

All project-related activities involving hazardous materials would be conducted in a manner that minimizes potential environmental impacts. An on-site file would be maintained containing current Material Safety Data Sheets (MSDS) for all chemicals, compounds, and/or substances that are used in the course of construction and operations. No hazardous substance, as defined by Comprehensive Environmental Response, Compensation, and Liability Act, would be used in pipeline construction operations. No Resource Conservation Recovery Act hazardous wastes would be generated by pipeline construction operations. Any spills of oil, gas, or any other potentially hazardous substance would be reported immediately to the BLM, local authorities, and other responsible parties, and would be mitigated immediately, as appropriate, through cleanup or removal to an approved disposal site.

2.1.4.11 Safety and Management Practices

Inland Production Company integrates safety and the environment into every aspect of its work. All of Inland's employees are regularly trained in effective safety practices. The elements of training include courses covering blood borne pathogens, confined space entry, effective handling of contractors and subcontractors, drum storage and handling, hazard communications, hot tapping procedures, hot work permit procedures, hydrogen sulfide, incident reporting guidelines, lockout/tagout procedures, MSDS, personal protective equipment, pressure vessel inspection, Spill Prevention, Control, and Countermeasures inspection guidelines, and disaster recovery plans.

2.2 No Action Alternative

Under the No Action Alternative, the Proposed Action would not be implemented. Current land use practices and resource trends in the region would continue, including additional previously permitted oil and gas development.

Without implementation of the Proposed Action, additional compression would be required in the project area to support existing well operations. An additional smaller high-pressure pipeline and numerous poly pipelines also would be required, which would create a need for multiple ROWs and an increased potential for surface disturbance.

2.3 Alternatives Considered but not Analyzed in Detail

2.3.1 Pipeline Burial

Burial of the pipeline along its entire proposed route was considered, but eliminated due to the additional surface disturbance required, and the increased potential for erosion and introduction of noxious weeds that would be associated with a cross-country route.

2.3.2 Alternative Direct Route

A more direct cross-country route was considered, but eliminated due to the existence of adequate ROW adjacent to existing roadways and pipeline corridors, the additional surface disturbance required, and the increased potential for erosion and introduction of noxious weeds that would be associated with a cross-country route.

3.0 AFFECTED ENVIRONMENT

This chapter discusses the current status of resources in the project area that could potentially be affected by the Proposed Action (see Section 3.2). Resources that would not be affected by the action are summarized in Section 3.1, along with the rationale for dismissal, and eliminated from further discussion in the document.

3.1 Environmental Elements Considered, but not Analyzed in Detail

Resource elements not considered in detail are summarized in **Table 3-1**. These resources were generally eliminated from in-depth discussion either because the resource is not found in the proposed project area or the resource would not be impacted by the Proposed Action.

3.2 Affected Environment

3.2.1 Special Status Species

Based on review of the July 2003 USFWS list of federally listed and proposed endangered, threatened, and candidate species and habitat in Utah by county, and review of the state sensitive species list, the following species of concern could potentially occur in the proposed project area. Tables identifying all of the USFWS and state-sensitive species originally listed for the project area, their habitat association and potential to occur in the project area, and whether they were eliminated from further analysis and why are provided in Appendix A, Sensitive Species Tables.

3.2.1.1 Plants

See **Tables A-1** and **A-2** and the clearance survey report in the appendices for additional information on the following sensitive plant species.

- Uinta Basin Hookless Cactus. The federally listed threatened Uinta Basin hookless cactus (*Sclerocactus glaucus*) has been identified along the proposed pipeline route. One individual was found on the ROW and five other individuals were found north of the ROW in Section 35, T8S, R17E during a September 2003 sensitive species survey of the ROW.

- Pariette Bench Hookless Cactus. Habitat for the state sensitive Pariette Bench hookless cactus (*Sclerocactus brevispinus*) occurs in the proposed project area. Surveys along the proposed ROW in September 2003 did not identify any individuals within the proposed project area.

Table 3-1
Environmental Elements Considered, but not Analyzed in Detail

Element	Rationale
Areas of Critical Environmental Concern	None Present in Proposed Project Area.
Air Quality	No additional compressor engines would be required for the Proposed Action. It is anticipated that one to five vehicles would be used for construction along the proposed pipeline ROW at any time during the construction period. Vehicle emissions and fugitive dust associated with these vehicles would be temporary and are not expected to noticeably alter existing air quality conditions.
Environmental Justice	No minority or economically disadvantaged communities or populations are present within the Proposed Action area or would be disproportionately affected by the Proposed Action.
Native American Concerns	Tribal groups, including the Northern Utes, have been consulted with by the BLM regarding the project. As of the date of this report, the tribes have not identified any concerns.
Prime and Unique Farmlands	None Present in Proposed Project Area.
Hazardous Wastes	No chemicals subject to Superfund Amendments and Reauthorization Act Title III in amounts greater than 10,000 pounds would be used as part of the Proposed Action. No extremely hazardous substances as defined in 40 CFR 355 in threshold planning quantities would be used.
Recreation	Designated recreational sites are not present in the Proposed Action Area. No restrictions on dispersed recreation (e.g., all-terrain vehicle use) in the project area would be implemented as part of the Proposed Action.
Visual Resources and Noise	Visual. The Proposed Action would be constructed in an area currently identified as Visual Resource Management Class III and IV. Only minor changes to the current viewscape would occur as a result of construction of the Proposed Action. The proposed pipeline would remain unpainted, so that, with weathering, it would better blend with the natural environment. No ground disturbance would occur during construction and upon project closure, the pipe would be removed. Noise. All vehicles and construction equipment would be muffled to minimize construction-related noise, which would be temporary.
Wildlife	No clearing or grading of the ROW would be required as part of the Proposed Action, and continuous human activity would not occur along the ROW after construction is completed. Construction is scheduled to begin in Spring 2004 and continue for approximately 90 days. Potential effects to wildlife would be short-term, and are expected to be limited to avoidance of the project area by wildlife during construction and maintenance activities. Raptor surveys completed along the proposed ROW in July 2003 did not identify any new or active raptor nests within 0.5 mile of the proposed ROW. Twenty historic nest sites were identified within 0.5 mile of the ROW. Of these 20 nests, only 2 golden eagle nests have been active in the last 5 years; in 1998 and 1999 (BLM 2003b). Two historic nests lie within 500 feet of the ROW. In July 2003, a survey to detect the presence of new and pre-existing nest sites and raptor activity was completed by a BLM-authorized biologist along a mile-wide corridor centered on the proposed ROW. No new nests and no active nests were identified during the survey. Inland has committed to conduct new raptor surveys prior to commencement of construction, as appropriate, and implement construction restrictions, as approved by the BLM, if active nests or territories are found. See Chapter 4.0 and Appendix B, Risk Assessment, for a discussion on potential effects to fish from potential pipeline spills.
Vegetation	Potential effects to vegetation would include temporary trampling of vegetation along the pipeline corridor that would be limited to the construction period.

Table 3-1 (Continued)

Element	Rationale
Rangeland Standards and Guides	Hydrologic Processes. Hydrologic processes would not be altered since the Proposed Action would not require grading and would not block surface waterways. Species Diversity. Plant species diversity would not decline since no grading would occur along the proposed corridor. In addition, seeding of native species would occur in incidentally disturbed areas and staging areas. Wildlife species are not expected to decline as a result of the Proposed Action since the proposed route would follow existing roadways and pipeline corridors and no new disturbance is anticipated.
Water Resources	Water Depletion. Water for hydrostatic testing would be obtained from the Johnson Water District via water taps in the Monument Butte Oil Field. Water from the Johnson Water District would not result in a new depletion in the Upper Colorado River System since water to be used has been prior appropriated and applicable mitigation taxes (e.g., the "fish tax") have been previously paid. Water Quality. No perennial water sources are crossed by or lie adjacent to the Proposed Action. Subsurface waters would not be encountered by the Proposed Action. The potential effects to water quality from a pipeline rupture and possible spill into unnamed drainages to the Green River are summarized in Chapter 4.0, Environmental Consequences, and analyzed in detail in Appendix B.
Noxious and Invasive Weeds	Applicant-committed Environmental Protection Measures and the lack of ground disturbing activities should reduce or eliminate the potential for increases in noxious weed populations along the ROW from the Proposed Action.
Geology and Soils	Applicant-committed erosion control measures should reduce or eliminate potential effects to soil in the project area.
Socioeconomics and Transportation	Construction of the Proposed Action would be completed by approximately five Inland employees. Approximately three vehicles would be used during construction. These increases would not significantly alter uses of public facilities, transportation routes, and economics in the project area.
Wetlands and Riparian Areas	None Present in Proposed Project Area.
Wild and Scenic Rivers	None Present in Proposed Project Area.
Wild Horses and Burros	No wild horse or burro populations have been identified within the proposed Project Area.
Wilderness	No proposed wilderness or Wilderness Study Areas are located in the proposed Project Area.

3.2.1.2 Fish

Several federally listed and BLM/State-sensitive fish species are found in the Green River, which receives drainage in part from the area that includes the proposed project. Flannelmouth sucker larvae have historically utilized lower Pariette Draw as habitat; however, Pariette Draw is currently dry and a dam located near the confluence of Pariette Draw and the Green River prevents the upstream movement of fish from the Green River into Pariette Draw. Flannelmouth sucker larvae also may have previously colonized Pariette Draw using irrigation canals as conduits; however, since agricultural practices in the area have recently changed, the canals are not used at this time. Consequently, flannelmouth suckers and threatened and endangered fish species are not expected to inhabit Pariette Draw. In contrast, the confluence of Pariette Draw and the Green River is important rearing habitat for several threatened and endangered fish species and their young during periods of high flow. These species are identified below:

- Humpback chub (*Gila cypha*) – federally and state-endangered;
- Roundtail chub (*Gila robusta*) – state-threatened;
- Bonytail (*Gila elegans*) – federally and state-endangered;
- Colorado pikeminnow (*Ptychocheilus lucius*) – federally and state-endangered;
- Razorback sucker (*Xyrauchen texanus*) – federally and state-endangered;
- Flannelmouth sucker (*Catostomus latipinnis*) – BLM/state-sensitive; and
- Bluehead sucker (*Catostomus discobolus*) – BLM/state-sensitive.

See **Tables A-1** and **A-2** in the appendices for additional detail on these sensitive fish species.

3.2.1.3 Birds

The following sensitive species may occur in the proposed project region. They are protected under the Migratory Bird Treaty Act (MBTA), the Bald and Golden Eagle Protection Act**,** and/or are considered a Species of Critical Conservation Concern by the USFWS. Additional detail on these species is provided in **Tables A-1** and **A-2** in the appendices.

- Mountain plover (*Charadrius montanus*). This BLM/state-sensitive bird has been observed historically in the project region. The western half of the proposed ROW lies within area identified by the BLM as potential plover habitat (BLM 2003b). No birds were observed during the July and September 2003 surveys along the ROW. One plover sighting was confirmed in the Monument Butte area during the 2003 breeding season (Faircloth 2004).

- Ferruginous hawk (*Buteo regalis*). The ferruginuous hawk is listed as a BLM/state-sensitive species in Utah. In the project area, nests have been documented on cliff faces, rock outcrops in isolated areas, and on badland knolls. Potential nesting and foraging habitat exists along

the proposed ROW; however, no new nest sites or individuals were observed during the July and September clearance surveys. Seven historic ferruginous nests have been recorded within 0.5 mile of the western third of the ROW; however, these nests have not had activity reported for them for at least 3 years (BLM 2003b).

- Burrowing owl (*Athene cunicularia*). The BLM/state-sensitive burrowing owl is generally associated with abandoned prairie dog or other small mammal burrows. Burrowing owl foraging and nesting habitat exists along the proposed ROW and burrowing owl have been sighted in the general area during the breeding season. No burrowing owl nests or individuals were observed during the July and September 2003 clearance surveys. No historic nests have been identified within 0.5 mile of the ROW (BLM 2003b).

- Short-eared owl (*Asio flammeus*). The BLM/state-sensitive short-eared owl typically inhabits arid grasslands, marshes, and agricultural areas. Historically, short-eared owls have been observed in the Monument Butte area. No short-eared owls were observed during the July and September 2003 clearance surveys. No historic nests have been identified within 0.5 mile of the ROW (BLM 2003b).

- Golden eagle (*Aquila chrysaetos*). The golden eagle is protected under the Bald and Golden Eagle Protection Act and the MBTA. Historically, golden eagles are known to forage and nest in the project area. They typically nest on high cliff faces, but have been known to nest on low mud terraces in the Monument Butte area. Two historic golden eagle nests are known to occur within 0.5 mile of the western third of the proposed ROW. These nests were last recorded as active in 1999 (BLM 2003b). No golden eagles or new nests were identified during the September 2003 survey. The two historic nests were re-identified during the July 2003 clearance survey and were found not to be active at that time (see Appendix A, Clearance Survey Report, for additional detail on the July and September 2003 surveys).

3.2.2 Cultural Resources

A 100-foot-wide, approximately 9-mile-long corridor centered on the proposed ROW and all but two of the 11 staging areas were surveyed for cultural resources by Montgomery Archaeological Consultants in May and June 2003. The final survey report has been provided to the BLM Vernal Field Office for review. One of the two unsurveyed staging areas, located north of well site 6-31 and south of well site 3-31 at a road intersection, was surveyed by the BLM Vernal Field Office archaeologist in August 2003. The remaining unsurveyed staging area located east of well site 15-32 in T8S, R17E, had not been culturally cleared at the time of this report.

The cultural inventories and a literature review of the area by Montgomery Archaeological Consultants resulted in the identification of 25 cultural sites. Twenty-two of these sites are located within approximately 500 feet of the proposed ROW and 3 sites are located more than 1,000 feet

from the ROW. Five of the 25 sites were newly identified (42Dc1559 through 42Dc1563). Two previously recorded sites (42Un2456 and 42Un2568) were re-documented, and 18 previously documented sites were revisited (42Dc426, 42Dc854, 42Dc983, 42Dc1377, 42Dc1378, 42Dc1379, 42Dc1380, 42Un2453, 42Un2454, 42D2455, 42Un2532, 42Un2534, 42Un2537, 42Un2947, 42Un2948, 42Un2949, 42Un2957, and 42Un2963). Fourteen of the 25 sites identified within 500 feet of the proposed ROW are recommended eligible to the NRHP (Montgomery Archaeological Consultants 2003). See Table C-1 in Appendix C for a summary of the sites located in the project area, their eligibility status, jurisdiction, and site type.

3.2.3 Paleontology

The Uinta Formation is the primary formation exposed at the surface in the project area. This formation is considered to be one of the most paleontologically sensitive strata in Utah and over 70 genera of vertebrates are known from this formation (Hamblin 1996).

Based upon review of BLM records in the Vernal Field Office, six paleontology sites have been previously identified along the proposed ROW or at the staging areas (42Dc296V, Dc967V, 42Dc853V, Dc305V, 42Un974V, and 42Dc225V). Vertebrate fossils, including fossil turtle and crocodile remains, have been found at these sites. Paleontological surveys have been previously completed along portions of the ROW and at all but two of the staging areas (Inland 2003; BLM 2003b). Areas of the Proposed Action that do not appear to have been previously surveyed for paleontological sites include:

- The ROW in Section 36, T8S, R16E (the staging area at well site 10-36 has been surveyed).
- The staging area located near well site 9-36.
- The ROW in the eastern half of Section 31, T8S, R17E.
- The staging area located due east of well site 15-32, Section 32, T8S, R17E.
- The ROW in Section 32, T8S, R17E (the staging areas at well sites 12-32 and 11-32 have been previously cleared).
- The ROW in the western half of Section 33, T8S, R17E (the staging area at well site 11-33 has been previously cleared).
- The ROW in Section 34, T8S, R17E (the staging area at well site 7-34 has been previously cleared).

- The staging area located south of well site 3-31 and north of well site 6-31.

The staging areas located at well sites 1A-35 and 1-36 have been previously cleared. The staging area at well site 9-31 would be cleared as part of permitting for the well site Application for Permit to Drill process, which is currently ongoing.

3.2.4 Water Resources

The Proposed Action would cross seven intermittent drainages. Two of these, located south of the existing compressor station, are approximately 80 feet wide and 50 feet deep. The remaining drainages are relatively shallow (less than 4 feet deep) with less clearly defined channels.

With the exception of two of the seven intermittent drainages, all of the washes crossed by the Proposed Action drain directly into Pariette Draw and then into the Green River. Stream flow in these Pariette Draw tributary washes is intermittent before the flow becomes perennial. Once the flow becomes perennial, the water passes through a small wetland before entering Pariette Draw. Within Pariette Draw, streamflow first enters a detention pond and then a desiltation pond. When dry, these series of ponds take about a week to fill. When full, it is estimated these ponds retain water for a minimum of one day before water reaches the Green River (Faircloth 2003). Water draining into Pariette Draw would travel in excess of 12 miles downstream of the pipeline crossing (more than 4 miles of intermittent and at least 8 miles of perennial) in order to reach the Green River.

The two remaining washes empty into the Castle Peak Draw, which then drains into Pariette Draw above the detention and desiltation dams. As described in the paragraph above, streamflow would be detained by these dams before entering the Green River. Until it connects with Pariette Draw, Castle Peak Draw and its washes are intermittent through their entire lengths.

Additional discussion related to surface water flow in the project area is provided in Appendix B, Risk Assessment.

4.0 ENVIRONMENTAL CONSEQUENCES

Discussions in this section of the EA are limited to resources that may be potentially affected by the Proposed Action or resources that may require further explanation. For discussions on other resources and why they were eliminated from detailed consideration, see **Table 3-1**.

4.1 Proposed Action

4.1.1 Special Status Species

This section discusses potential effects to special status species, including federally listed and BLM/state-sensitive species and species protected by the MBTA or the Bald and Golden Eagle Protection Act, that could potentially occur in the project area

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4.1.1.1 Plants

One individual of the Uintah Basin hookless cactus (*Sclerocactus glaucus*) (federally listed as threatened) was identified along the proposed ROW in Section 35, T8S, R17E during September 2003 clearance surveys. Inland has committed to avoiding this individual by relocating the ROW approximately 10 feet to the south of its current location. The location would be flagged and barricaded with tape by a BLM-approved biologist prior to construction to confirm that the plant is avoided. If previously unidentified plants are located during construction, Inland would notify the BLM and would attempt to relocate the ROW to avoid the plants. If this is not feasible, Inland would work with the BLM to develop appropriate mitigation, which may include transplanting the cactus or collecting individuals.

Mitigation

No additional mitigation is identified.

Unavoidable Adverse Effects

If the protection measures identified previously and in Section 2.1.4, Applicant-committed Environmental Protection Measures, are implemented, no unavoidable adverse effects to the Uintah Basin hookless cactus are anticipated.

Cumulative Effects

If the protection measures identified previously and in Section 2.1.4, Applicant-committed Environmental Protection Measures, are implemented, no cumulative effects to the Uintah Basin hookless cactus are anticipated.

4.1.1.2 Fish

Federal agencies have expressed concerns for federally protected and BLM/state-sensitive fish species in the Green River if a spill from the proposed pipeline were to occur. Consequently, a risk assessment was conducted to evaluate the potential risk to these aquatic species from a release of natural gas condensate into washes crossed by the proposed pipeline. A report discussing the risk assessment in detail is provided in Appendix B, Risk Assessment. A summary of the results is provided below.

For fish and aquatic biota in the Green River, risk of adverse effects is a function of 1) the chance of exposure and 2) the concentration of the contaminant that could occur within the river as the result of a spill. Both of these factors were evaluated to determine the likelihood of adverse effects to endangered fish and other aquatic biota in the Green River.

In general, it was determined that most spills would not enter a wash due to the distance the condensate would have to travel overland and how rapidly the condensate would evaporate. For this assessment, it was assumed that a release within 0.1 mile of a wash (a combined distance of 0.2 mile for both wash banks) could potentially enter the drainage and be transported downstream. Since there are 7 wash crossings, there could be a total of 1.4 miles of pipeline where a release could enter a wash. Based on historical national averages for pipeline incidents (0.001 incidents/mile-year; calculated from data in Office of Pipeline Safety 2002); however, a pipeline spill that enters a wash would be predicted to occur only once every 700 years (= 1/[0.001 spills/mile-year *1.4 miles]). The amount of condensate that would be released should be limited due to periodic pigging of the pipeline as committed to by Inland (see Section 2.1.4, Applicant-committed Environmental Protection Measures).

Once the condensate is released into the environment, evaporation and other attenuation mechanisms would immediately begin to further reduce the spill volume. Based on the chemical composition of the natural gas condensate that would be produced by Inland, it is estimated that the majority of the released material would evaporate within 8 hours. Attenuation and dilution would further reduce the estimated level of toxicity to aquatic biota in intermittent drainages in the project area.

The risk assessment prepared for this EA evaluated the risk of toxic effects on special status fish species in the Green River. Based on the assessment, the chance of a spill entering a tributary wash is once in 700 years. When combined with the probability of having sufficient stream flow to transport a release to the Green River, the risk is once every 7,000 years. Inland Oil Company also has agreed to periodically pig the pipeline to remove free liquids (including natural gas condensate) from the pipeline, thereby reducing the volume of condensate available for a potential spill (see Section 2.1.4, Applicant-committed Protection Measures). If a spill were to occur and condensate were transported towards the Green River, time and distance would allow

the majority of condensate to evaporate. The presence of intervening wetland, detention dam, and desiltation dams would further increase the travel time and enhance evaporation rates. Finally, even if the conservative assumption were made that the entire spilled volume reached the river, adverse effects to aquatic biota in the Green River still would not be anticipated due to dilution and attenuation.

Mitigation

No additional mitigation is identified.

Unavoidable Adverse Impacts

The potential for appreciable amounts of condensate to reach the Green River is low. Even if condensate were to reach the river, the concentrations would be below acute toxicity levels. Consequently, the likelihood of adverse effects to special status species is very low.

Cumulative Impacts

Given that the probability of a pipeline release and the predicted magnitude of impacts are remote, unmitigated or unavoidable adverse impacts to special status fish species from the Proposed Action would have minimal cumulative impacts.

There is the potential that fish may be directly and indirectly affected from other oil and gas spills from other nearby pipelines. The risk posed by each pipeline depends primarily on the pipeline's diameter, the type of product transported, likely spill volume size, and its distance to the Green River. Since each new pipeline wash crossing adds to the potential for adverse effects on endangered fish and other aquatic fauna, cumulative risk of adding the proposed new, 10-inch pipeline to risk posed by any existing pipelines was evaluated.

At this time, the only existing large pipeline located in the vicinity of the proposed pipeline is another 10-inch natural gas condensate pipeline. The existing pipeline contains the same natural gas and condensate that would be transported by the new pipeline. If the new pipeline is built, the volume contained in the existing pipeline would be split between the pipelines. According to Inland, the new pipeline would eventually replace portions of the existing pipeline. Since the volume of material analyzed for the proposed pipeline represents the total volume that would be transported by the two pipelines, the risk would remain the same as previously described. Thus, cumulative impacts to aquatic biota in the Green River from natural gas condensate spills from these pipelines are unlikely.

4.1.1.3 Birds

Mountain Plover (*Charadrius montanus*)

No mountain plover were identified during the special status species survey in July 2003 or during a habitat survey in September 2003. However, nesting and foraging habitat for this species is found along the proposed pipeline ROW, mountain plover have historically been sighted in the project area, and one plover sighting was confirmed during the 2003 nesting season. Potential direct effects to mountain plover could occur if construction or maintenance activities took place between March 15 and August 15, when plover potentially would be present in the area. Direct effects could include disruption of breeding, nesting, and foraging activities in areas along the pipeline corridor where construction or maintenance activities are being performed. Indirect effects, such as the pipeline creating a barrier to movement of plover chicks, also could occur. These effects would be avoided provided that the Applicant-committed Environmental Protection Measures outlined under the Mountain Plover, MBTA, and Terrestrial Wildlife paragraphs in Section 2.1.4 of this EA are implemented.

Mitigation. No additional mitigation is identified.

Unavoidable Adverse Effects. If the protection measures identified previously in Section 2.1.4, Applicant-committed Environmental Protection Measures, are implemented, no unavoidable adverse effects to the mountain plover are anticipated.

Cumulative Effects. If the protection measures identified previously in Section 2.1.4, Applicant-committed Environmental Protection Measures, are implemented, no cumulative effects to the mountain plover are anticipated.

Ferruginuous Hawk (*Buteo regalis*)

No ferruginous hawks were identified during the special status species survey in July 2003 and the survey in September 2003, although nesting and foraging habitat for this species is found along the proposed pipeline ROW and approximately 7 historic nests are located within 0.5 mile of the ROW (BLM 2003b). None of these nests have been identified as being active since at least 1998 and none appear to be in direct line-of-sight of the ROW. Potential direct effects to ferruginous hawks could occur if construction or maintenance activities took place between February 1 and July 31, when ferruginous hawks potentially would be present in the area. Direct effects could include disruption of breeding, nesting, and foraging activities in areas along the pipeline corridor where construction or maintenance activities are being performed. These effects would be avoided provided that the Applicant-committed Environmental Protection Measures outlined under the MBTA and Raptor paragraphs in Section 2.1.4 of this EA are implemented.

Mitigation. No additional mitigation is identified.

Unavoidable Adverse Effects. If the protection measures identified previously in Section 2.1.4, Applicant-committed Environmental Protection Measures, are implemented, no unavoidable adverse effects to the ferruginous hawk are anticipated.

Cumulative Effects. If the protection measures identified previously in Section 2.1.4, Applicant-committed Environmental Protection Measures, are implemented, no cumulative effects to the ferruginous hawk are anticipated.

Burrowing Owl (*Athene cunicularia*)

No burrowing owls were identified during the special status species survey in July 2003 or the survey in September 2003, although nesting and foraging habitat for this species is found along the proposed pipeline ROW and burrowing owls have historically been sighted in the project area. Potential direct effects to burrowing owl could occur if construction or maintenance activities took place between February 1 and July 31, when owls potentially would be present in the area. Direct effects could include disruption of breeding, nesting, and foraging activities in areas along the pipeline corridor where construction or maintenance activities are being performed. These effects would be avoided provided that the Applicant-committed Environmental Protection Measures outlined under the MBTA and Raptor paragraphs in Section 2.1.4 of this EA are implemented.

Mitigation. No additional mitigation is identified.

Unavoidable Adverse Effects. If the protection measures identified previously in Section 2.1.4, Applicant-committed Environmental Protection Measures, are implemented, no unavoidable adverse effects to the burrowing owl are anticipated.

Cumulative Effects. If the protection measures identified previously in Section 2.1.4, Applicant-committed Environmental Protection Measures, are implemented, no cumulative effects to the burrowing owl are anticipated.

Short-eared Owl (*Asio flammeus*)

No short-eared owls were identified during the special status species survey in July 2003 or the survey in September 2003, although nesting and foraging habitat for this species is found along the proposed pipeline ROW and short-eared owls have historically been sighted in the Monument Butte area. Potential direct effects to short-eared owls could occur if construction or maintenance activities took place between February 1 and July 31, when owls potentially would be present in the area. Direct effects could include disruption of breeding, nesting, and foraging activities in areas along the pipeline corridor where construction or maintenance activities are being

performed. These effects would be avoided provided that the Applicant-committed Environmental Protection Measures outlined under the MBTA and Raptor paragraphs in Section 2.1.4 of this EA are implemented.

Mitigation. No additional mitigation is identified.

Unavoidable Adverse Effects. If the protection measures identified previously in Section 2.1.4, Applicant-committed Environmental Protection Measures, are implemented, no unavoidable adverse effects to the short-eared owl are anticipated.

Cumulative Effects. If the protection measures identified previously in Section 2.1.4, Applicant-committed Environmental Protection Measures, are implemented, no cumulative effects to the short-eared owl are anticipated.

Golden Eagle (*Aquila chrysaetos*)

Golden eagles are historically known to occur in areas along the proposed ROW and 2 historic golden eagles nests are located within 0.5 mile of the western third of the ROW. These nests have not been identified as being active since 1999 and the July 2003 survey, which relocated the nests, indicated that the nests also were not active in 2003. The nests lie outside direct line-of-sight of the proposed ROW. Potential direct effects to golden eagles could occur if construction or maintenance activities took place between February 1 and July 31, when the eagles potentially would be present in the area. Direct effects could include disruption of breeding, nesting, and foraging activities in areas along the pipeline corridor where construction or maintenance activities are being performed. These effects would be avoided provided that the Applicant-committed Environmental Protection Measures outlined under the MBTA and Raptor paragraphs in Section 2.1.4 of this EA are implemented.

Mitigation. No additional mitigation is identified.

Unavoidable Adverse Effects. If the protection measures identified previously in Section 2.1.4, Applicant-committed Environmental Protection Measures, are implemented, no unavoidable adverse effects to the golden eagle are anticipated.

Cumulative Effects. If the protection measures identified previously in Section 2.1.4, Applicant-committed Environmental Protection Measures, are implemented, no cumulative effects to the golden eagle are anticipated.

4.1.2 Cultural Resources

Of the 14 eligible sites identified within 500 feet of the proposed ROW, 4 sites (42Dc426, 42Dc1559, 42Un2456, and 42Un2568) would be crossed by the proposed ROW. Three sites recommended ineligible to the NRHP also would be crossed by the proposed ROW (42Un2453, 42Un2532, and 42Un2534). Of the remaining 18 sites that would not be crossed by the ROW:

- Six recommended eligible sites (42Dc854, 42Dc1380, 42Dc1561, 42Dc1562, 42Dc1563, and 42Un2537) and 2 recommended ineligible sites (42Un2454 and 42Un2455) are located within 50 feet of the ROW;

- Three recommended ineligible sites (42Dc1377, 42Un2963, and 42Un2947) lie within 300 feet of the proposed ROW;

- Two recommended eligible sites (42Dc983 and 42Dc1379) and 2 recommended ineligible sites (42Dc1378 and 42Dc1560) are located approximately 400 feet north of the ROW; and

- Three sites lie more than 1,000 feet east of the ROW (42Un2948, 42Un2949, and 42Un2957).

A cultural clearance survey had not been completed at the staging area east of well site 15-32 at the time of the report. Inland has committed to conducting a site survey at this location prior to commencement of construction as discussed in Section 2.1.4, Applicant-committed Environmental Protection Measures.

Inland has placed barrier fencing around six recommended eligible sites either crossed by the ROW or located within 50 feet of the ROW. Diagrams of fencing placement at the sites will be furnished to the contractor by the BLM prior to construction. The fencing was placed to restrict proposed construction activities from encroaching on and disturbing the sites. These locations are discussed further in Section 4.1.2.1, Mitigation.

Approximately 1,200 feet of the ROW would be buried in existing roadways to avoid impacting significant portions of sites 42Dc426 and 42Un2568. Erosion controls committed to by Inland should reduce or eliminate any indirect effects to sites related to erosion at these locations.

Illegal collecting at cultural sites located along the ROW could increase as a result of construction activities and an increase in the number of workers in the area. However, Inland's commitment to enforcing its policy that instructs employees not to participate in cultural artifact collecting should reduce the potential for illegal collecting.

4.1.2.1 Mitigation

For the four recommended eligible sites that would be crossed by the proposed project, Inland has committed to implementing the following measures to protect these sites during construction and operation of the Proposed Action. Based on implementation of these measures, it is assumed that the eligible sites would be appropriately mitigated.

- Site 42Dc426: The southern portion of this site has been fenced off from the proposed ROW to prevent construction from encroaching onto the site. To further avoid the site, approximately 700 feet of the pipeline would be buried in the existing roadway. Pipe would be lowered in using a boom. As requested by the BLM, cultural monitors would be present during construction at this site.

- Site 42Dc1559: This site parallels an existing pipeline corridor, and portions of it show existing disturbance. Portions of the existing pipe in this area may be replaced with new pipe as part of the Proposed Action. Barrier fencing would be placed on both sides of the ROW to restrict construction to previously disturbed portions of the site. As requested by the BLM, cultural monitors would be present during construction at this location.

- Site 42Un2456: The west side of site 42Un2456 was found during the survey to be extensively disturbed. Fencing was placed along the intact eastern side of the site to prevent construction access to the sensitive portion of the site. As requested by the BLM, cultural monitors would be present at this location during construction.

- Site 42Un2568: Barrier fencing was placed on both sides of the ROW to prevent encroachment onto sensitive portions of the site. In addition, approximately 500 feet of the ROW would be buried in the existing roadbed to further avoid effecting significant portions of the site. As requested by the BLM, cultural monitors would be present at this site during construction.

- Inland has committed project supervisors to informing project personnel to the sensitive nature of cultural resources and the statutes protecting them and has instructed personnel not to conduct illegal collecting.

- If previously unidentified sites are located on the ROW, construction would be halted until the BLM's authorized officer could be contacted to evaluate the site. The Authorized Officer would be contacted within 24 hours of discovery. If the sites are identified by the BLM, in consultation with the Utah State Historic Preservation Officer, as significant, potential impacts would be mitigated through avoidance or other measures agreed to by the agencies and Inland. These

measures could include, but are not limited to, excavation, additional recording and mapping, and Native American involvement for religious and cultural purposes.

- A cultural clearance survey also would be completed at the staging area located east of well site 15-32 prior to construction. If sensitive cultural sites are found at this location, effects would be mitigated through avoidance or other measures as determined in discussion with the BLM's Authorized Officer.

4.1.2.2 Unavoidable Adverse Impacts

Application of the measures identified above would result in no adverse effects to cultural resources.

4.1.2.3 Cumulative Effects

Implementation of the proposed protection measures should eliminate effects to cultural resources from the Proposed Action. Therefore, the project would not contribute to incremental increases in effects on cultural resources in the region. A detailed discussion of cumulative effects from other oil and gas activities in the Monument Butte area is available in the Castle Peak and Eightmile Flat EIS, currently in progress.

4.1.3 Paleontology

Six previously identified paleontological sites would be crossed by the proposed ROW. No ground disturbing operations are proposed at these locations. Erosional effects are not anticipated at the sites since surface disturbance would be limited and erosion control measures as discussed in Chapter 2.0 would be implemented. Illegal collecting could occur as a result of the project; however, as described in Section 4.1.3.1, Mitigation, Inland has committed to enforcing measures to reduce illegal collecting. According to review of BLM and Inland maps, approximately half of the proposed ROW has not been surveyed for paleontological resources.

4.1.3.1 Mitigation

Inland has committed to implementing the following measures to protect paleontological resources during construction and operation of the Proposed Action (also see Section 2.1.4, Applicant-committed Environmental Protection Measures). Based on adherence to the following measures, no affect to paleontological resources is anticipated for this project.

- Inland has committed project supervisors to informing project personnel to the sensitive nature of paleontological resources and the statutes protecting them and has instructed personnel not to conduct illegal collecting.

- If previously unidentified sites are located on the ROW, construction would be halted until the appropriate agencies could be contacted to evaluate the site. If the sites are identified by the BLM as significant, potential impacts would be mitigated through avoidance or other measures agreed to by the agencies and Inland.

- If so requested by the BLM, paleontological clearance surveys would be conducted along those portions of the ROW and at staging areas that have not been previously surveyed. If previously unidentified sites are located, attempts would be made to relocate the ROW to avoid the site. If this is not possible, Inland would work with the BLM to determine if additional measures beyond those described above are required at the site.

4.1.3.2 Unavoidable Adverse Impacts

Application of the measures identified above would result in no significant unavoidable adverse impacts to paleontological resources.

4.1.3.3 Cumulative Effects

Implementation of the proposed protection measures should eliminate potential effects to paleontological resources from the Proposed Action. Therefore, no incremental increase in cumulative effects is anticipated. A detailed discussion of cumulative effects from oil and gas activities in the region is available in the Castle Peak and Eightmile Flat EIS, currently in progress.

4.1.4 Water Resources

Water quality effects from the proposed project and the potential for spills into surface waters were evaluated in a risk assessment conducted for the Proposed Action and were previously discussed in Section 4.1.1.2, Fish. A report summarizing the evaluation is provided in Appendix B, Risk Assessment.

4.1.4.1 Mitigation

No additional mitigation is identified.

4.1.4.2 Unavoidable Adverse Impacts

The potential for spills and appreciable amounts of condensate to reach drainages is very low. If a spill did occur, water quality could be temporarily compromised until attenuation and dilution reduced concentration levels.

4.1.4.3 Cumulative Impacts

Given that the probability of a pipeline release and the predicted magnitude of impacts are remote, unmitigated or unavoidable adverse impacts to water quality from the Proposed Action would have minimal cumulative impacts.

There is the potential that water quality may be directly and indirectly affected from other oil and gas spills from other nearby pipelines. The risk posed by each pipeline depends primarily on the pipeline's diameter, the type of product transported, likely spill volume size, and its distance to affected drainages. Currently, the only existing large pipeline located in the vicinity of the proposed pipeline is another 10-inch natural gas condensate pipeline. The existing pipeline contains the same natural gas and condensate that would be transported by the new pipeline. If the new pipeline is built, the volume contained in the existing pipeline would be split between the pipelines. According to Inland, the new pipeline would eventually replace the existing pipeline. Since the volume of material analyzed for the proposed pipeline represents the total volume that would be transported by the two pipelines, the risk would remain the same as previously described. Thus, cumulative impacts to area water quality from natural gas condensate spills from these pipelines are unlikely.

4.1.5 Relationship of Short-term Use of the Environment and Long-term Productivity

Provided that the mitigation measures described in Chapter 4.0, Environmental Consequences, are implemented, the short-term use of the environment associated with the Proposed Action would not be expected to affect long-term productivity beyond that discussed for the No Action Alternative. Effects would be short-term in nature and would cease following completion of construction activities.

Construction activities in the project area may temporarily displace some animals from forage and cover during the 12-week construction period. Water use during the life of the project would be, at most, a one-time use of approximately 4,600 bbls for pipeline integrity testing. Oil and gas transport over the life of the project would permanently remove resources from the area, but would not effect the long-term potential for mineral resource development in the Uinta Basin. Noise levels would increase during construction, but would return to pre-project levels following completion of construction activities.

4.1.6 Irreversible and Irretrievable Commitment of Resources

An irreversible commitment of resources involves the loss of future options. It applies primarily to the effects of use of nonrenewable resources, such as oil and gas, or to those factors, such as soil productivity, that are renewable only over a very long period of time. The irretrievable commitment

of resources involves the loss of production, harvest, or use of natural resources during the life of the operations.

Water used for hydrostatic testing would be irretrievably lost during the life of the project. There would be an irretrievable and irreversible commitment of gas gathered during pipeline operations, which would not be available for future use. No other irreversible or irretrievable commitment of resources has been identified for this project.

4.2 No Action Alternative

Under the No Action Alternative, the proposed pipeline would not be constructed and the existing pipelines would remain. An additional compressor station may need to be constructed to accommodate higher pipeline pressure needs.

4.2.1 Special Status Species

Under the No Action Alternative, no potential disruption of mountain plover or raptor breeding or foraging would occur as a result of the 10-inch pipeline project development. No potential risks to sensitive fish species from possible condensate spills from the proposed 10-inch pipeline would exist. Risks of spills and potential disruption of raptor breeding and foraging from other existing lines and oil and gas facilities would continue. Existing land uses and resource development trends in the region would continue, creating increases in surface disturbance, vehicle traffic, and oil and gas production facility development.

4.2.1.1 Mitigation

None identified.

4.2.1.2 Unavoidable Adverse Effects

No unavoidable adverse impacts would occur beyond those currently occurring as part of on-going land use and resource development trends.

4.2.1.3 Cumulative Impacts

No additional cumulative impacts would occur beyond those currently occurring as part of on-going land use and resource development trends.

4.2.2 Cultural Resources

Under the No Action Alternative, no potential effects to cultural resources would occur as a result of the 10-inch pipeline project development. Effects, such as secondary erosion, related to ongoing activities at other existing lines and oil and gas facilities would continue. Existing land uses and resource development trends in the region would continue, creating incremental increases in surface disturbance, vehicle traffic, and oil and gas production facility development. Use of the existing pipelines along the proposed ROW would continue. Truck or worker traffic would not increase if the No Action Alternative were implemented. Mitigation for cultural resources in the area would continue as provided for under previous NEPA documents.

4.2.2.1 Mitigation

None identified.

4.2.2.2 Unavoidable Adverse Effects

No unavoidable adverse impacts would occur beyond those currently occurring as part of on-going land use and resource development trends.

4.2.2.3 Cumulative Impacts

No additional cumulative impacts would occur beyond those currently occurring as part of on-going land use and resource development trends.

4.2.3 Paleontology

Under the No Action Alternative, no potential effects to paleontological resources would occur as a result of the 10-inch pipeline project development. Effects, such as secondary erosion and illegal collecting, related to ongoing activities at other existing lines and oil and gas facilities would continue. Existing land uses and resource development trends in the region would continue, creating increases in surface disturbance, vehicle traffic, and oil and gas production facility development.

4.2.3.1 Mitigation

None identified.

4.2.3.2 Unavoidable Adverse Effects

No unavoidable adverse impacts would occur beyond those currently occurring as part of on-going land use and resource development trends.

4.2.3.3 Cumulative Impacts

No additional cumulative impacts would occur beyond those currently occurring as part of on-going land use and resource development trends.

4.2.4 Water Resources

Currently, there is one existing 10-inch natural gas condensate pipeline in the project area. The existing pipeline contains the same volume of natural gas and condensate that would be transported by the new pipeline. If the new pipeline is built, the volume contained in the existing pipeline would be split between the pipelines. Under the No Action Alternative, the new 10-inch line would not be constructed and the natural gas volume would not be split. Since the volume of material found in the existing pipeline generally equals the total volume that would be transported eventually by the new pipeline, the risk to area water quality would be the same as previously described for the proposed pipeline (see Section 4.1.4, Water Resources). Therefore, cumulative impacts to area water quality from natural gas condensate spills from existing pipelines are expected to be similar to those proposed for the new pipeline.

4.2.5 Relationship of Short-term Use of the Environment and Long-term Productivity

Under the No Action Alternative, current short- and long-term uses of the project area would continue. These uses, which primarily include oil and gas development, are evaluated in detail in the Castle Peak and Eightmile Flat EIS currently in preparation. Short-term effects from oil and gas development generally include increases in fugitive dust emissions, employment and tax revenue increases, increases in traffic, and temporary displacement of wildlife. Long-term effects include loss of water to reinjection, loss of wetlands and wildlife habitat due to road and well development, increases in nitrogen dioxide emissions, removal of oil and gas resources, loss of paleontological and cultural sites, and a loss of vegetative productivity.

4.2.6 Irreversible and Irretrievable Commitment of Resources

Under the No Action Alternative, ongoing oil and gas development projects in the region would continue to have irreversible and irretrievable effects in the project area. Irreversible effects currently occurring include the loss of soil productivity, loss of future oil and gas reserves, disturbance of paleontological and cultural sites, and loss of water use due to reinjection. Irretrievable effects currently involve the loss of soil productivity, native vegetation, range, and wildlife habitat due to surface disturbance from well pad and road development. Irreversible and irretrievable commitment of resources is discussed in further detail in the Castle Peak and Eightmile Flat EIS currently in preparation.

5.0 CONSULTATION AND COORDINATION

This section describes the consultation and coordination activities carried out during the preparation of this EA. The 10-inch Pipeline EA was prepared by ENSR, an environmental consulting company, with direction and cooperation from Inland and input and review by BLM employees in the BLM's Vernal, Utah Field office.

5.1 Consultation

As part of the preparation of this EA, the sensitive species list provided by the USFWS to the BLM for the Castle Peak and Eightmile Flat Oil and Gas Expansion Project EIS in July 2003 was reviewed and adopted for this project. The Proposed EA Action lies entirely within the area covered by the EIS and communication with the USFWS in October 2003 (Wittington 2003) indicated that this list was still valid and current for use on this project. State sensitive species as identified for the EIS also were reviewed for potential occurrence along the proposed 10-inch pipeline ROW.

The BLM initiated formal consultation in September 2003 with Native American tribes with ties to the project area, including the Northern Utes, and is consulting with the State Historic Preservation Officer regarding cultural sites identified along the ROW. As of the date of this report, the BLM had not received any responses from tribal representatives contacted during the consultation. The tribes have 45 days from the initial contact regarding the project to respond with their concerns.

5.2 Coordination

The following list identifies the preparers and reviewers of this EA.

Preparers

Karen Caddis	ENSR International	Project Coordinator, EA Preparation
Scott Ellis	ENSR International	Project Manager, Peer Reviewer
Keith Montgomery	Montgomery Archaeology	Cultural Resources
Heidi Tillquist	ENSR International	Risk Assessment

Reviewers

Peter Kempenich	BLM Team Leader, Realty Specialist, Vernal Field Office
Bob Specht	Vegetation Specialist, BLM Vernal Field Office
Tim Faircloth	Wildlife Biologist, BLM Vernal Field Office
Blaine Phillips	Cultural Resources
John Mayer	Paleontology Specialist, BLM Vernal Field Office

6.0 REFERENCES

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APPENDIX A
SPECIAL STATUS SPECIES TABLES AND SURVEY REPORT (ENSR)

APPENDIX A
Threatened, Endangered, and Sensitive Species Clearance Survey Report
Prepared by Karen Caddis, ENSR International
September 2003

Company: Inland Production Company (Inland)
Project: Proposed 10-Inch Replacement Gas Gathering Pipeline (9-31-8-18 Well Location to Existing Compressor Station in Section 36, Township [T] 8 South [S], Range [R] 16 East [E])
Location: Section line just southeast of Well Pad Site 9-31-8-18 (NE/SE Section 31, T8S, R18E), west along existing roads and pipeline right-of-ways (ROWs) for 46,600 feet (or 8.83 miles) to the existing compressor station located in the Monument Butte East Unit (SE/SW, Section 25, T8S, R16E).
Survey Dates: July 24 and September 10, 2003

1.0 INTRODUCTION

On September 10, 2003, Karen Caddis with ENSR International, Inc. completed a sensitive resources survey for Inland along the route of a proposed 10-inch steel gathering line located southeast of Roosevelt, Utah, in the following sections:

- Section 31, T8S, R18E;
- Sections 31, 32, 33, 34, 35, and 36, T8S, R17E; and
- Sections 35 and 36, T8S, R16E.

The majority of the route lies within the ROWs of existing roadbeds or existing surface and underground pipeline ROWs. The ROW crosses lands managed by the U.S. Department of the Interior, Bureau of Land Management (BLM) and the State of Utah.

In addition, the sites for 11 staging areas as identified on a map provided via e-mail by Mr. William War with Inland Production Company also were evaluated. All but 3 of these original staging areas were located on previously disturbed well pad sites or road ROWs. After discussions via cell phone with Mr. War on September 10, an additional staging area on previously undisturbed ground was added at the intersection of the major east/west road with the road to well pad 3-31.

Six of the staging areas are located at previously disturbed well pad sites 10-36, 11-32, 12-32, 11-33, 1A-35, and 1-36. One site is located in a previously disturbed wide section of the main east/west road near pad site 9-36. The remaining 4 staging areas, including the newly added site, are located in previously undisturbed areas, including a site northeast of pad site 15-32, a site east of pad site 7-34, and a site north of pad site 9-31. Based on discussions with Mr. War on September 10, the site northeast of 15-32 will be relocated to the south side of the east/west road depending upon the results of archaeological surveys to be conducted at this location (this staging area is located near a historic gilsonite mine complex). This staging area's previously undisturbed

original location had a potential historic dump site located on it. The previously undisturbed site located east of well pad 7-34 will be moved to well pad 7-34 to reduce new surface disturbance.

A raptor survey of the ROW also was completed on July 24, 2003, by Jon Holst. The survey included a 1-mile-wide corridor centered on the ROW.

The threatened, endangered, and sensitive species presence/absence surveys of the proposed ROW were conducted to evaluate the extent of the potential impacts from construction and maintenance activities on special status species that could potentially occur in the area.

2.0 ECOLOGICAL SETTING

The proposed project area is located in the Uinta Basin of northeastern Utah. This region is high desert that receives between 6 to 10 inches of precipitation a year. The area is characterized by terraces bordered by steep canyons, badlands, and sandy washes that generally trend north and east. Elevation in the project area ranges from approximately 5,000 to 5,400 feet above sea level (asl). Drainages are typically dry and intermittent.

Undisturbed vegetation in the project area is characterized as high desert scrub dominated by saltbush (*Atriplex* sp.) and sagebrush (*Artemisia* sp.) species.

3.0 THREATENED, ENDANGERED, AND SENSITIVE SPECIES KNOWN TO OCCUR IN THE GENERAL PROJECT AREA

Discussions with the U.S. Fish and Wildlife Service (Wittington 2003) and BLM, and review of the Utah state-sensitive species list identified the potential for occurrence of the following species along the proposed pipeline route.

- Uinta Basin Hookless Cactus (*Sclerocactus glaucus*). This cactus is federally listed as threatened and is known to occur in transitional badland habitat bordering desert scrub communities that contain gravelly or rocky hills and terraces composed of alluvium soils. This species typically occurs on gravel-littered terrace and bluff margins and at the base of the terraces and bluffs along surface runoff areas. This species typically occurs on clay or silty clay soils overlain by gravels and at elevations between 4,700 and 6,000 feet asl. Populations of the cactus have historically been found within 0.5 mile to the north and east of the eastern portion of the proposed ROW.

- Golden Eagle (*Aquila chrysaetos*). This species is protected under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act. It is known to occur within the project vicinity.

- Ferruginous Hawk (*Buteo regalis*). This species also is protected under the MBTA and is known to nest historically in the project area.

- Burrowing Owl (*Athene cunicularia*). This species is listed as BLM/State sensitive and is protected under the MBTA. It is generally associated with prairie dog colonies.

- Mountain Plover (*Charadrius montanus*). This species is listed as BLM/State sensitive and is protected under the MBTA. Mountain plover normally occur on open plains, especially in shortgrass prairie, but have been documented in the Monument Butte area in desert shrubland habitat.

4.0 SURVEY METHODOLOGY

Pedestrian surveys of the ROW were conducted in July and September 2003 in areas where the **vegetation,** soil**,** and slope characteristics were determined to be adequate to support sensitive species identified as potentially occurring in the project area. A raptor survey was completed on July 24, 2003, within a 1-mile-wide corridor centered on the proposed ROW. A survey for the Uinta Basin hookless cactus was completed within the 10- to 25-foot-wide ROW corridor on September 10, 2003.

5.0 RESULTS

The following observations were made during the September 2003 survey regarding important resources along the ROW:

- Weeds: scattered populations of halogeton and cheat grass are found along the entire proposed route.

- Prairie dog colonies: no prairie dog burrows were identified within 50 feet of the proposed ROW.

- Mountain plover habitat: the western half of the proposed ROW lies within area identified by the BLM as potential plover habitat. No birds were observed during the surveys.

- General vegetation: the western half of the ROW lies in areas dominated by galleta grass, rabbit brush and shadscale. The middle and eastern portions lie mainly in areas characterized by desert pavement and limited vegetation.

- Raptors: according to global positioning system data provided by the state and the BLM, golden eagle nests that were active in 1998 and 1999 are located within a 1-mile radius of the western end of the ROW. No nests were identified within 100 feet of the ROW route. A raptor survey was completed on July 24, 2003, by Jon Holst along the proposed ROW. The survey

included a corridor within 0.5 mile of either side of the ROW centerline. No new nests or active nests were identified during this survey. A historic golden eagle nest was relocated during the survey. Review of maps identifying historic nest locations identified approximately 20 known nests within 0.5 mile of the ROW. None of the nests appear to be in line of sight to the ROW and none of the nests were active in 2003.

- Wetland/Riparian Areas: no wetland or riparian areas are crossed by the proposed ROW. Two intermittent drainages approximately 80 wide and 50 feet deep are crossed approximately 0.3 mile south of the compressor station on the western end of the ROW. A third drainage is crossed west of well pad site 12-32.

- Uinta Basin Hookless Cactus and other sensitive plants: based on a conversation with BLM botanists on September 9, no sensitive plant species surveys, other than the cactus, are required in the project area. The ROW and staging areas were surveyed for cactus on September 10. One population of hookless cactus (*Sclerocactus glaucus*) was located at UTM 12 586709.0, T4436812.8. One individual less than 3 inches in height was identified as lying within the proposed ROW at this site. Mr. War indicated that the pipe could be moved approximately 5 feet to the south to avoid this plant. An additional 4 live cactus and 1 dead cactus were located approximately 80 feet north of the ROW in the vicinity of the single plant.

- Paleontology: a potential fossilized crocodile specimen was identified within 100 feet of staging area 10-36 and 70 feet of the ROW on September 10. Based upon BLM records, a paleontological site has been previously identified near this location; however, the boundaries may need to be extended based upon Ms. Caddis' observations. An additional five previously identified paleontological sites are located on the proposed ROW, based on review of BLM databases. Blaine Phillips with the BLM suggested that Inland conduct paleontological and cultural surveys on previously undisturbed portions of the ROW and staging areas.

- Road crossings: the ROW would cross existing roadways approximately 11 times. This will require burying of the pipeline at these locations. The cultural survey contractor should be contacted to confirm that these areas are cleared for ground-disturbing operations.

FEDERALLY LISTED AND PROPOSED (P) ENDANGERED (E), THREATENED (T) AND CANDIDATE[9] (C) SPECIES AND HABITAT IN UTAH BY COUNTY

As of July 2003

COUNTY Species	Scientific Name	Status
Western Yellow-billed Cuckoo	*Coccyzus americanus occidentalis*	C
Black-footed Ferret[6]	*Mustela nigripes*	E
Canada Lynx	*Lynx canadensis*	T
DAVIS		
Bald Eagle[1,3]	*Haliaeetus leucocephalus*	T
Western Yellow-billed Cuckoo	*Coccyzus americanus occidentalis*	C
DUCHESNE		
Barneby Ridge-cress	*Lepidium barnebyanum*	E
Graham Beardtongue	*Penstemon grahamii*	C
Shrubby Reed-mustard	*Schoenocrambe suffrutescens*	E
Uinta Basin Hookless Cactus	*Sclerocactus glaucus*	T
Ute Ladies'-tresses	*Spiranthes diluvialis*	T
Bonytail[4,10]	*Gila elegans*	E
Colorado Pikeminnow[4,10]	*Ptychocheilus lucius*	E
Humpback Chub[4,10]	*Gila cypha*	E
Razorback Sucker[4,10]	*Xyrauchen texanus*	E
Bald Eagle[3]	*Haliaeetus leucocephalus*	T
Western Yellow-billed Cuckoo	*Coccyzus americanus occidentalis*	C
Black-footed Ferret[6]	*Mustela nigripes*	E
Canada Lynx	*Lynx canadensis*	T
EMERY		
Barneby Reed-mustard	*Schoenocrambe barnebyi*	E
Jones Cycladenia	*Cycladenia humilis* var. *jonesii*	T
Last Chance Townsendia	*Townsendia aprica*	T
Maguire Daisy	*Erigeron maguirei*	T
San Rafael Cactus	*Pediocactus despainii*	E
Winkler Cactus	*Pediocactus winkleri*	T
Wright Fishhook Cactus	*Sclerocactus wrightiae*	E
Bonytail[4,10]	*Gila elegans*	E
Colorado Pikeminnow[4,10]	*Ptychocheilus lucius*	E
Humpback Chub[4,10]	*Gila cypha*	E
Razorback Sucker[4,10]	*Xyrauchen texanus*	E
Bald Eagle[1]	*Haliaeetus leucocephalus*	T
Mexican Spotted Owl[1,4]	*Strix occidentalis lucida*	T
Western Yellow-billed Cuckoo	*Coccyzus americanus occidentalis*	C

FEDERALLY LISTED AND PROPOSED (P) ENDANGERED (E), THREATENED (T) AND CANDIDATE[9] (C) SPECIES AND HABITAT IN UTAH BY COUNTY

As of July 2003

COUNTY Species	Scientific Name	Status
SANPETE		
Heliotrope Milkvetch[4]	*Astragalus montii*	T
Bald Eagle[3]	*Haliaeetus leucocephalus*	T
Western Yellow-billed Cuckoo	*Coccyzus americanus occidentalis*	C
Canada Lynx[6]	*Lynx canadensis*	T
Utah Prairie Dog	*Cynomys parvidens*	T
SEVIER		
Heliotrope Milkvetch[4]	*Astragalus montii*	T
Last Chance Townsendia	*Townsendia aprica*	T
Wright Fishhook Cactus	*Sclerocactus wrightiae*	E
Bald Eagle[3]	*Haliaeetus leucocephalus*	T
Western Yellow-billed Cuckoo	*Coccyzus americanus occidentalis*	C
Utah Prairie Dog	*Cynomys parvidens*	T
SUMMIT		
Bald Eagle[3]	*Haliaeetus leucocephalus*	T
Western Yellow-billed Cuckoo	*Coccyzus americanus occidentalis*	C
Black-footed Ferret[6]	*Mustela nigripes*	E
Canada Lynx	*Lynx canadensis*	T
TOOELE		
Ute Ladies'-tresses	*Spiranthes diluvialis*	T
Bald Eagle[3]	*Haliaeetus leucocephalus*	T
Western Yellow-billed Cuckoo	*Coccyzus americanus occidentalis*	C
UINTAH		
Clay Reed-mustard	*Schoenocrambe argillacea*	T
Graham Beardtongue	*Penstemon grahamii*	C
Horseshoe Milkvetch	*Astragalus equisolensis*	C
Shrubby Reed-mustard	*Schoenocrambe suffrutescens*	E
Uinta Basin Hookless Cactus	*Sclerocactus glaucus*	T
Ute Ladies'-tresses	*Spiranthes diluvialis*	T
White River Beardtongue	*Penstemon scariosus* var. *albifluvis*	C
Bonytail[4,10]	*Gila elegans*	E
Colorado Pikeminnow[4,10]	*Ptychocheilus lucius*	E
Humpback Chub[4,10]	*Gila cypha*	E
Razorback Sucker[4,10]	*Xyrauchen texanus*	E

FEDERALLY LISTED AND PROPOSED (P) ENDANGERED (E), THREATENED (T) AND CANDIDATE[9] (C) SPECIES AND HABITAT IN UTAH BY COUNTY

As of July 2003

COUNTY / Species	Scientific Name	Status
Bald Eagle[3]	*Haliaeetus leucocephalus*	T
Mexican Spotted Owl	*Strix occidentalis lucida*	T
Western Yellow-billed Cuckoo	*Coccyzus americanus occidentalis*	C
Black-footed Ferret[6]	*Mustela nigripes*	E
Canada Lynx	*Lynx canadensis*	T
UTAH		
Clay Phacelia	*Phacelia argillacea*	E
Deseret Milkvetch	*Astragalus desereticus*	T
Ute Ladies'-tresses	*Spiranthes diluvialis*	T
Utah Valvata Snail[6]	*Valvata utahensis*	E
June Sucker[4]	*Chasmistes liorus*	E
Bald Eagle[3]	*Haliaeetus leucocephalus*	T
Western Yellow-billed Cuckoo	*Coccyzus americanus occidentalis*	C
Canada Lynx	*Lynx canadensis*	T
WASATCH		
Ute Ladies'-tresses	*Spiranthes diluvialis*	T
Bald Eagle[3]	*Haliaeetus leucocephalus*	T
Western Yellow-billed Cuckoo	*Coccyzus americanus occidentalis*	C
Canada Lynx	*Lynx canadensis*	T
WASHINGTON		
Dwarf Bear-Poppy	*Arctomecon humilis*	E
Holmgren Milkvetch	*Astragalus holmgreniorum*	E
Shivwits Milkvetch	*Astragalus ampullarioides*	E
Siler Pincushion Cactus	*Pediocactus sileri*	T
Virgin River Chub[4]	*Gila seminuda*	E
Woundfin[4]	*Plagopterus argentissimus*	E
Desert Tortoise[4]	*Gopherus agassizii*	T
Bald Eagle[3]	*Haliaeetus leucocephalus*	T
California Condor[7]	*Gymnogyps californianus*	E
Mexican Spotted Owl[1,4]	*Strix occidentalis lucida*	T
Southwestern Willow Flycatcher[1]	*Empidonax traillii extimus*	E
Western Yellow-billed Cuckoo	*Coccyzus americanus occidentalis*	C

FEDERALLY LISTED AND PROPOSED (P) ENDANGERED (E), THREATENED (T) AND CANDIDATE[9] (C) SPECIES AND HABITAT IN UTAH BY COUNTY

As of July 2003

COUNTY

Species	Scientific Name	Status

[1] Nests in this county of Utah.

[2] Migrates through Utah, no resident populations.

[3] Wintering populations (only four known nesting pairs in Utah).

[4] Critical habitat designated in this county.

[5] Critical habitat proposed in this county.

[6] Historical range.

[7] Experimental nonessential population.

[8] Introduced, refugia population.

[9] Candidate species have no legal protection under the Endangered Species Act. However, these species are under active consideration by the Service for addition to the Federal List of Endangered and Threatened Species and may be proposed or listed during the development of the proposed project.

[10] Water depletions from *any* portion of the occupied drainage basin are considered to adversely affect or adversely modify the critical habitat of the endangered fish species, and must be evaluated with regard to the criteria described in the pertinent fish recovery programs.

For additional information contact: U.S. Fish and Wildlife Service, Utah Field Office, 2369 West Orton Cirlce, Suite 50, West Valley City, Utah 84119 Telephone: (801) 975-3330

Table A-1
Special Status Species Identified for the Inland 10-Inch Pipeline Project

Common Name	Scientific Name	Status[1]	Habitat Association	Potential for Occurrence Within the Proposed Action Area and Cumulative Effects Area	Eliminated From Detailed Analysis	References
MAMMALS						
Black-footed ferret	*Mustela nigripes*	FE; SE	This species inhabits semi-arid grasslands and mountain basins. It is found primarily in association with active prairie dog colonies that contain suitable burrow densities and colonies that are of sufficient size. Ferrets breed from March to May. Kits are born in late May to early June and remain underground until late June or early July.	Low. In Utah, the distribution of this species is limited to a nonessential experimental population reintroduced into Coyote Basin, Uintah County, 35 miles east of the Proposed Action area. No prairie dog colonies were observed along the proposed ROW during a September 2003 survey of the route.	Yes. No suitable habitat occurs along the proposed ROW.	Biggins et al. 1993; Hillman and Carpenter 1980; Hillman 1968.
Canada lynx	*Lynx lynx canadensis*	FT; SS	Primarily occurs in Douglas-fir, spruce-fir, and subalpine forests at elevations above 7,800 feet amsl. The lynx uses large woody debris, such as downed logs, and windfalls, to provide denning sites for protection and thermal cover for kittens.	None. If extant in Utah, this species most likely occurs in montane forests in the Uinta Mountains.	Yes. The Proposed Action area does not occur within potentially suitable habitat for this species.	Fitzgerald et al. 1994; UDWR 1998; USDA 1994.
BIRDS						
Ferruginous hawk	*Buteo Regalis*	ST	In Utah, this species resides mainly in lowland open desert terrain characterized by barron cliffs and bluffs, piñon-juniper woodlands, sagebrush-rabbit brush, and cold desert shrub. Nesting habitat includes promontory points, and rocky outcrops.	Moderate to high. Three historic ferruginous hawk nests are located within 0.5 mile of the proposed ROW.	No.	BISON-M 2002. UDWR 1998.

Table A-1 (Continued)

Common Name	Scientific Name	Status[1]	Habitat Association	Potential for Occurrence Within the Proposed Action Area and Cumulative Effects Area	Eliminated From Detailed Analysis	References
Bald eagle	*Haliaeetus leucocephalus*	FT[2]; ST	In Utah, breeding occurrences are limited to four locations within three counties (Carbon, Grand, and Salt Lake counties). Nest sites typically occur in proximity to open water and are generally found in mature heterogeneous stands of multi-storied trees. Winter habitat typically includes areas of open water, adequate food sources, and sufficient diurnal perches and night roosts.	Low. This species is known to winter at the Pariette wetlands and along the Green River. No habitat occurs within 1 mile of the project area and no bald eagle nests or nesting attempts have been documented within the project region.	Yes. Suitable habitat for the bald eagle does not occur within 1 mile of the proposed ROW. Transient and migratory birds may past through the area.	BISON-M 2001; Cooksey 1962; Edwards 1969; Grubb and Kennedy 1982; Ingram 1965; UDWR 1998.
Mexican spotted owl	*Strix occidentalis lucida*	FT; ST	This species is found primarily in canyons with mixed conifer forests, pine-oak woodlands and riparian areas. This species nests on platforms and large cavities in trees, on ledges, and in caves. Breeding and nesting season: approximately March through August.	None. In Utah, this species is primarily found on the Colorado Plateau in the southern portions of the state. However, in 1996, this species was reported at Dinosaur National Monument on the Colorado-Utah Border.	Yes. The Proposed Action area and cumulative effects area does not occur within potentially suitable habitat for this species.	UDWR 1991; USFWS 1995.
Western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	FC; ST	This species is considered to be a riparian obligate and usually occurs in large tracts of cottonwood/willow habitats. However, this species also has been documented in lowland deciduous woodlands, alder thickets, deserted farmlands, and orchards. Breeding season: late June through July.	Low. This species is known to occur at the Ouray NWR and along the Green River. Potential habitat for this species would be limited to willow and tamarisk within Pariette Draw. However, this area lacks the mature overstory riparian woodlands typically used by this species.	Yes. The proposed Action does not cross any riparian areas and other suitable habitat for this species.	Faircloth 2002; UDWR 1998.

Table A-1 (Continued)

Common Name	Scientific Name	Status[1]	Habitat Association	Potential for Occurrence Within the Proposed Action Area and Cumulative Effects Area	Eliminated From Detailed Analysis	References
FISH						
Humpback chub	*Gila cypha*	FE; SE	This species is endemic to the Colorado River system within deep, swift-running rivers, with canyon shaded environments.	Low. This species occurs in the Green river downstream of the proposed project area.	No.	UDWR 1998.
Roundtail chub	*Gila robusta*	ST	Adults inhabit low to high flow areas in the Green River; young occur in shallow area with minimal flow.	Low. This species occurs in the Green River below the Pariette Draw confluence.	No.	Sigler 1963; UDWR 1998.
Bonytail	*Gila elegans*	FE; SE	This species is endemic to the Colorado River system and currently is restricted to the Green River in Utah. They use main channels of large rivers and favor swift currents.	Low. This species occurs in the Green river downstream of the proposed project area.	No.	UDWR 1998.
Colorado pikeminnow	*Ptychocheilus lucius*	FE; SE	Known from the Colorado River system. Uses large swift rivers.	Low. This species occurs in the Green River below the Pariette Draw confluence.	No	UDWR 1998.
Razorback sucker	*Xyrauchen texanus*	FE; SE	Endemic to large rivers of the Colorado River system.	Low. This species occurs in the Green River below the Pariette Draw confluence.	No	UDWR 1998.
PLANTS						
Horsehoe milkvetch	*Astragalus equisolensis*	FC	Occurs in Uintah County. Occurs on Duschesne River Formation soils in sagebrush, shadscale, horsebrush, and mixed desert shrub communities. Typically found between 4,790 to 5,185 feet amsl.	None. No soils associated with the Duschesne River Formation exist in the Proposed Action area.	Yes. Potentially suitable habitat does not exist in the Proposed Action area.	Atwood et al. 1991; BLM 2003.
Barneby ridge-cress	*Lepidium barnebyanum*	FE	Occurs in Duchesne County. Endemic to the Indian Canyon drainage. Occurs on white shale outcrops on the Uinta Formation in piñon-juniper between 6,200	Low. The study area is located outside of the species' known range.	Yes. The known distribution of this species is outside of the Proposed Action area.	Atwood et al. 1991.

Table A-1 (Continued)

Common Name	Scientific Name	Status[1]	Habitat Association	Potential for Occurrence Within the Proposed Action Area and Cumulative Effects Area	Eliminated From Detailed Analysis	References
			and 6,500 feet amsl.			
Graham (Uintah Basin) beardstongue	*Penstemon grahamii*	FC	Occurs in east Duchesne and Uintah counties. Closest known occurrence is near Mormon Gap. Found on Evacuation Creek and Lower Parachute Members of the Green River Formation. Occurs on shale knolls in sparsely vegetated desert shrub and piñon -juniper communities between 4,600 and 6,700 feet amsl.	None. Based on field observations made by the BLM, no suitable habitat occurs in the project area.	Yes. Potentially suitable habitat does not exist in the Proposed Action area.	Atwood et al. 1991; BLM 2003.
White River beardstongue	*Penstemon scariosus var. albifluvis*	FC	Occurs in Uintah County. Closest known occurrence is near Bonanza. Found on the Evacuation Creek and Lower Parachute Members of the Green River Formation on sparsely vegetated shale slopes in mixed desert shrub and piñon -juniper communities between 5,000 and 6,000 feet amsl.	None. Based on field observations made by the BLM, no suitable habitat occurs in the project area.	Yes. Potentially suitable habitat does not exist in the Proposed Action area.	Atwood et al. 1991; BLM 2003.
Clay reed-mustard or clay thelypody	*Schoenocrambe argillacea*	FT	Endemic to the Bookcliffs in Uintah County. Northernmost known occurrence is in the Brown's Canyon area. Occurs on shales at the contact zone between the lower Uinta and upper Green River Formations in mixed desert shrub of Indian ricegrass and pygmy sagebrush between 5,400 and 6,000 feet amsl.	Low. The study area is located outside of the species' known range.	Yes. The known distribution of this species is outside of the Proposed Action area.	Atwood et al. 1991; BLM 2003.

Table A-1 (Continued)

Common Name	Scientific Name	Status[1]	Habitat Association	Potential for Occurrence Within the Proposed Action Area and Cumulative Effects Area	Eliminated From Detailed Analysis	References
Shrubby reed-mustard	*Schoenocrambe suffrutescens*	FE	Closest known populations are in the Willow Creek and Evacuation Creek areas. Found on the Evacuation Creek and lower Parachute Creek Members of the Green River Formation on calcareous shales in pygmy sagebrush, mountain mahogany, juniper, and mixed desert shrub communities between 5,400 and 6,000 feet amsl.	None. Based on field observations made by the BLM, no suitable habitat occurs in the project area.	Yes. Potentially suitable habitat does not exist in the Proposed Action area.	Atwood et al. 1991; BLM 2003; NatureServe 2002.
Uinta Basin hookless cactus	*Sclerocactus glaucus*	FT	Occurs in Duchesne and Uintah counties. Occurs on gravelly hills and terraces on Quaternary and tertiary alluvium soils in cold desert shrub communities between 4,700 and 6,000 feet amsl.	High. The cactus is known to occur in the study area.	No. One cactus was identified on the ROW during a September 2003 survey. The ROW will be rerouted to avoid the cactus.	Atwood et al. 1991.
Ute ladies'-tresses	*Spiranthes diluvialis*	FT	Occurs in Duchesne and Uintah Counties. Streams, bogs, and open seepages in cottonwood, saltcedar, willow, and piñon-juniper communities on the south and east slope of the Uinta Range and along the Green River from Browns Park to Split Mountain. Potentially occurs in upper reaches of streams in the Bookcliffs. Elevational range between 4,400 and 6,800 feet amsl.	None. Water in Pariette Wetlands is too alkaline to support this species.	Yes. Potentially suitable habitat does not exist in the Proposed Action.	Atwood et al. 1991; BLM 2003.

FE = Federally listed as endangered.
FT = Federally listed as threatened.
FC = Federal candidate. SS
PT = Proposed to be listed as federally threatened.

SE = State listed as endangered in Utah.
ST = State listed as threatened in Utah.
= Utah state sensitive species.

Table A-2
Sensitive Species Identified for the 10-Inch Pipeline Project

Common Name	Scientific Name	Status[1]	Habitat Association	Potential for Occurrence Within the Project Area and Cumulative Effects Area	Eliminated From Detailed Analysis	References
MAMMALS						
Spotted bat	*Euderma maculatum*	SS	Inhabits desert shrub, sagebrush-rabbitbrush, piñon-juniper woodland, and ponderosa pine and montane forest habitats. In Utah, the species also uses lowland riparian and montane grassland habitats. Suitable cliff habitat typically appears to be necessary for roosts/hibernacula. Spotted bats typically do not migrate and use hibernacula that maintain a constant above freezing temperature from September through May. Hibernation (in caves) and winter activity have been documented in southwestern Utah.	Low. The species potentially occurs throughout Utah; however, no occurrence records exist for the extreme northern or western parts of the state. Known occurrences have been reported in northeastern Uintah County.	Yes. Potentially suitable roosting habitat does not occur within the study area. Occurrence potential would be limited to foraging individuals.	BISON-M 2002; Dalton et al. 1990; Fitzgerald et al. 1994; UDWR 2000, 2002.
Townsend's big-eared bat	*Corynorhinus townsendii*	SS	Inhabits a wide range of habitats from semidesert shrublands and piñon-juniper woodlands to open montane forests. Roosting occurs in mines and caves, in abandoned buildings, on rock cliffs, and occasionally in tree cavities. Foraging occurs well after dark over water, along margins of vegetation, and over sagebrush.	Low. The species occurs throughout much of Utah including Duchesne and Uintah counties. Relative to study area, one individual was collected at the Ouray National Wildlife Refuge in 1980, approximately 12 miles northeast of the study area. Roosting habitat could potentially occur in areas where rock cliffs and caves are present.	Yes. No rock cliffs or caves are located along the proposed ROW and no surface disturbance is anticipated as part of the Proposed Action.Therefore, no disturbance to Townsend's bat habitat is anticipated.	BISON-M 2002; Fitzgerald et al. 1994; UDWR 1998; UDWR 2000; UNHP 2002.

Table A-2 (Continued)

Common Name	Scientific Name	Status[1]	Habitat Association	Potential for Occurrence Within the Project Area and Cumulative Effects Area	Eliminated From Detailed Analysis	References
Brazilian free-tailed bat	*Tadarida brasiliensis*	SS	Typically inhabits woodland to lowland areas where the species roosts in caves, crevices in cliff faces, buildings, and under bridges. In Utah, this species inhabits urban areas, lowland riparian woodlands, desert shrub, and ponderosa pine forests. Known to overwinter (some remaining active) in the southwestern part of the state.	Low. The species is known to occur in all but the northernmost parts of Utah (Box Elder and Daggett counties). Relative to the study area, one individual was collected along the Pariette Draw in 1984. Roosting habitat for this species could potentially occur in areas where rock cliffs and caves are present, as discussed above for Townsend's big-eared bat.	Yes. No surface disturbance is anticipated as part of the Proposed Action, and therefore, no disturbance to bat habitat is anticipated.	BISON-M 2002; Dalton et al. 1990; UDWR 1998; UDWR 2000; UNHP 2002.
Northern river otter	*Lontra canadensis*	SS	Inhabits rivers, lakes, and riverine habitats, with associated riparian vegetation. In Utah, the species occurs in montane forests to desert canyons within areas of suitable habitat. Dens under overhanging roots and banks along water courses. Young are born in late winter to early spring.	Low. Occurrence by this species has been reported in at least 18 rivers and streams in northern, central, and eastern Utah between 1978 and 1988. This species is known to frequent the Pariette Ponds in the eastern portion of the study area.	Yes. The Proposed Action would not cross riparian habitat or perennial waterways and no surface disturbance is anticipated. The Proposed Action is located over 2 miles west of the Pariette Ponds.	Fitzgerald 1994; UDWR 1998; 2002.
White-tailed prairie dog	*Cynomys leucurus*	IPL	This species inhabits open shrublands, semidesert grasslands, and mountain valleys; occassionally invades pastures and agricultural land at lower elevations. Frequently occurs in loose colonies that may occupy hundreds of acres. Overgrazing by livestock may favor increases in population density on favorable sites.	Low. No prairie dog colonies were observed along the proposed ROW during a September 2003 survey of the ROW.	Yes. No colonies were observed along the proposed ROW.	Fitzgerald et al. 1994.

Table A-2 (Continued)

Common Name	Scientific Name	Status[1]	Habitat Association	Potential for Occurrence Within the Project Area and Cumulative Effects Area	Eliminated From Detailed Analysis	References
Thirteen-lined ground squirrel	*Spermophilus tridecemlineatus*	SS	Inhabits plains, grasslands, sagebrush, rabbitbrush, and montane meadows, but also utilizes disturbed sites such as pastures, prairie dog towns, roadsides, golf courses, and cemeteries. In Utah, the species prefers cultivated field and grassland habitats. Heavier soils (e.g., clays, loams, or sandy-loams) are preferred. The species hibernates between October and April. Young typically are born in mid-May to early June.	Low. In Utah, the species is native to the Uinta Basin where it is known from Uintah and Duchesne counties. Relative to the study area, this species has been documented along the Pariette Bench in 1952. More recent occurrences have been reported along the Pariette Draw in 1984.	Yes. No surface disturbance is anticipated as part of the Proposed Action, and therefore, no disturbance to squirrel habitat is anticipated.	BISON-M 2002; Fitzgerald et al. 1994; UDWR 1998, 2002; UNHP 2002.
BIRDS						
American white pelican	*Pelecanus erythrorhynchos*	SS	Inhabits areas of open water including large rivers, lakes, ponds, and reservoirs with surrounding habitats ranging from barren to heavily vegetated sites. Typically nests on isolated islands in lakes or reservoirs; rarely nests on peninsulas.	Low. In Utah, the species is known to nest on islands associated with Great Salt and Utah lakes. In northeastern Utah, the species occurs as a transient on larger water bodies.	Yes. The Proposed Action would not be located near perennial water sources and no surface disturbance is anticipated.	BISON-M 2002; UDWR 1998.
Swainson's hawk	*Buteo swainsoni*	SS	Inhabits grasslands, deserts, agricultural areas, shrublands, and riparian forests. Breeding birds nest in trees in or near open areas. In Utah, the species also occurs in marshlands; rarely occurs in brushy areas or scrub desert. Breeding season: April 1 through July 15.	Low. This species is known to occur throughout Utah and the Uinta Basin as an uncommon summer resident and common migrant. It is rarely encountered in brushy areas and scrublands and generally requires trees of moderate height for nesting. No Swainson's hawk nests have been documented within the project vicinity.	Yes. Raptor surveys along the proposed ROW in June 2003 did not identify any new Swainson's hawk nests within 0.5 mile of the ROW. No historic Swainson's nests have been identified within 0.5 mile of the ROW.	BISON-M 2002; Johnsgard 1990; UDWR 1998.

Table A-2 (Continued)

Common Name	Scientific Name	Status[1]	Habitat Association	Potential for Occurrence Within the Project Area and Cumulative Effects Area	Eliminated From Detailed Analysis	References
Mountain plover	*Charadrius montanus*	SS	In the Uinta Basin, small mountain plover populations breed in shrub-steppe habitat where vegetation is sparse and sagebrush communities are dominated by *Artemesia* spp. with components of black sage and grasses (e.g., Sandberg bluegrass, Indian ricegrass, and needle-and thread). Nests locations also vary with respect to topography (nests were located on flat, open ground; on the top or at the base of slopes; or very close to large rocky outcroppings). Other important nest site characteristics in Utah include the amount of total rock cover, bare ground, and the presence of prairie dogs.	Low to moderate. A portion of the proposed route lies within area designated by the BLM as potential plover habitat. Plover have been historically sighted in the project vicinity.	No.	BLM GIS Data 2002; Day 1994; Dechant et al. 1999; Inland GIS Data 2002; Knopf and Miller 1994; Manning and White 2001a, b; UDWR 2002; UNHP 2002; USFWS 2002.
Greater sage grouse	*Centrocercus urophasianus*	SS	Inhabits upland sagebrush habitat in rolling hills and benches. Breeding occurs on open leks (or strutting grounds) and nesting and brooding occurs in upland areas and meadows in proximity to water and generally within a 1-mile radius of the lek. During winter, sagebrush habitats at submontane elevations are commonly used. Breeding season: March 1 through June 30.	Moderate. The species is widespread, but declining, in Utah, with extant populations in Uintah and Duchesne counties. The only known lek site in the region occurs approximately 4 miles west of the western end of the proposed ROW. This lek has not been active for several years.	Yes. The Proposed Action lies outside of known sage grouse breeding and nesting areas.	UDWR 1990, 1998.

Table A-2 (Continued)

Common Name	Scientific Name	Status[1]	Habitat Association	Potential for Occurrence Within the Project Area and Cumulative Effects Area	Eliminated From Detailed Analysis	References
Long-billed curlew	*Numenius americanus*	SS	Inhabits shortgrass prairies, alpine meadows, riparian woodlands, and reservoir habitats. Breeding habitat includes upland areas of shortgrass prairie or grassy meadows with bare ground components, usually near water.	Low. Widespread migrant in Utah. Breeding birds are fairly common but localized, primarily in central and northwestern Utah. Potential nesting has been reported in Uintah County, but has not been confirmed.	Yes. No potentially suitable breeding habitat occurs within the study area. Occurrence by this species would be limited to migrating individuals.	BISON-M 2002; Kingery 1998; UDWR 1998, 2002.
Black tern	*Chlidonias niger*	SS	Habitat includes reservoirs, lakes, ponds, marshes with open water, and sewage lagoons in association with tall tules, reeds, or other vegetation along the edge of water bodies. Nests typically are floating and are made from pieces of cattail and other marsh vegetation.	Low. Localized breeder in Utah at Utah, Great Salt, and Pelican lakes and along the Green River. In Uintah County, the species is known to nest on sandbars in and along the Green River.	Yes. Occurrence by this species would be limited to migrating and foraging individuals.	BISON-M 2002; Kingery 1998; UDWR 1998.
Burrowing owl	*Athene cunicularia*	SS	Inhabits desert, semi-desert shrubland, grasslands, and agricultural areas. Nesting habitat primarily consists of flat, dry, and relatively open terrain; short vegetation; and abandoned mammal burrows for nesting and shelter. Breeding season: April through July 15.	Low to moderate. The species is an uncommon summer resident and migrant throughout Utah. Known to occur in Uintah and Duchesne counties.	No.	Johnsgard 1988; UDWR 1998; UNHP 2002.
Short-eared owl	*Asio flammeus*	SS	Inhabits arid grasslands, agricultural areas, marshes, and occasionally open woodland. In Utah, cold desert shrub and sagebrush-rabbitbrush habitats also are utilized. Typically a ground nester. Typical breeding season: April 10 through June 15.	Low. The species breeds in northern Utah and occurs as a migrant potentially throughout the state. Known to occur in Uintah County, with occurrence probable in Duchesne County. Historically, juvenile owls were observed within the study area. Consequently, it is possible breeding short-eared owls could occur within the study area.	No.	BISON-M 2002; Johnsgard 1988; Eckert 1987; UDWR 1998; UNHP 2002.

Table A-2 (Continued)

Common Name	Scientific Name	Status[1]	Habitat Association	Potential for Occurrence Within the Project Area and Cumulative Effects Area	Eliminated From Detailed Analysis	References
Lewis' woodpecker	*Melanerpes lewis*	SS	Inhabits open habitats including pine forests, riparian areas, and piñon-juniper woodlands. Breeding habitat typically includes ponderosa pines and cottonwoods in stream bottoms and farm areas. In Utah, the species inhabits agricultural lands and urban parks, montane and desert riparian woodlands, and submontane shrub habitats. Breeding season: mid-May through mid-August.	Low. In Utah, the species is widespread, but is an uncommon nester along the Green River. Breeding by this species has been observed in Ouray and Uintah counties, and along Pariette Wash.	Yes. No nesting or breeding habitat occurs within the Proposed Project area.	Kingery 1998; UDWR 1998; UNHP 2002.
Common yellowthroat	*Geothlypis trichas*	SS	Inhabits heavily vegetated areas primarily dominated by cattails and rushes, often in proximity to at least some open water. Conifer forests, riparian woodlands, marshes, and meadows also are utilized. In Utah, documented habitat usage includes marshes and wet hummocks as well as montane and desert riparian woodlands. Breeding season: June through August.	Low. Occurs throughout Utah, with probable occurrence in Uintah and Duchesne counties. Relative to the study area, this species is known to breed at the Ouray National Wildlife refuge and along the Green River. Potential habitat could occur in the vicinity of the Pariette Ponds.	Yes. No potential habitat is found along the proposed ROW.	BISON-M 2002; Hanberg 2002; UDWR 1998; UNHP 2002.
Blue grosbeak	*Guiraca caerulea*	SS	Inhabits desert riparian woodlands (including areas of tamarisk invasion), marshes, grasslands, and rural areas. Suitable nest habitat includes dense vegetation in otherwise open areas.	Low. Known to breed in the southern portion of Utah. However, this species has been documented at the Ouray National Wildlife Refuge and along the Green River.	Yes. No riparian or densely vegetated areas are found in the proposed project area. The project is also located outside of the documented breeding range in Utah. Consequently occurrence within the study area would be limited to migrating individuals.	BISON-M 2002; Hanberg 2002; Kingery 1998; UDWR 2002; UNHP 2002.

Table A-2 (Continued)

Common Name	Scientific Name	Status[1]	Habitat Association	Potential for Occurrence Within the Project Area and Cumulative Effects Area	Eliminated From Detailed Analysis	References
Bobolink	*Dolichonyx oryzivorus*	SS	Inhabits mesic and irrigated meadows, riparian woodlands, and subalpine marshes at lower elevations (2,800 to 5,500 feet amsl). Suitable breeding habitat for this ground nester includes tall grass, flooded meadows, prairies, and agricultural fields; forbs and perch sites also are required.	Low. The species breeds in isolated areas of Utah, primarily in the northern half of the state. No breeding by this species has been documented within the study area.	Yes. Potentially suitable breeding habitat does not occur in the study area. Occurrence within the study area would be limited to winter migrants.	BISON-M 2002; Kingery 1998; UDWR 2002.
REPTILES						
Milk snake	*Lampropeltis triangulum*	SS	Occurs in cold desert through montane regions where it inhabits grassland, shortgrass prairie, sagebrush, desert scrub, ponderosa pine, piñon-juniper woodland habitats.	Moderate. Occurs in the central and eastern portions of Utah. Known to occur in the Uinta Basin region. Relative to the study area, individuals have been documented within the study area along Pariette Draw in the northeastern portion of the study area, along Big Wash in the south-central portion of the study area, and in the northwestern portion of the study area, northwest of Castle Peak Draw.	Yes. No surface disturbance is anticipated as part of the proposed action and the project would be located in previously disturbed areas or existing ROWs. The pipeline would be elevated at intervals along the line to allow passage of small wildlife species. No effects to the milk snake are anticipated as a result of the Proposed Action.	Degenhardt et al. 1996; Hammerson 1999; UDWR 2002; UNHP 2002.
FISH						
Bluehead sucker	*Catostomus discobolus*	SS	Occupies a wide range of aquatic habitats ranging from cold, clear mountain streams to warm, turbid rivers.	Low. The species occurs in the Green River downstream of the Pariette Draw confluence.	No	UDWR 1998.
Flannelmouth sucker	*Catostomus latipinnis*	SS	Adults occur in riffles, runs, and pools in streams and large rivers, with the highest densities usually in pool habitat. Young live in slow to moderately swift waters in areas near shorelines.	Low. This species occurs in the lower portion of Pariette Draw and in the Green River below the Pariette Draw confluence.	No.	UDWR 1998.

Table A-2 (Continued)

Common Name	Scientific Name	Status[1]	Habitat Association	Potential for Occurrence Within the Project Area and Cumulative Effects Area	Eliminated From Detailed Analysis	References
PLANTS						
Park rock cress	*Arabis vivariensis*	BLM	Webber Formation sandstone and limestone outcrops in mixed desert shrub and piñon-juniper communities. Elevations 5,000-6,000 feet amsl.	Low. No Webber Formation outcrops are identified in the study area.	Yes. No potentially suitable habitat exists in the study area.	Atwood et al. 1991.
Hamilton milkvetch	*Astragalus hamiltonii*	BLM	Duchesne, Dakota, and Wasatch formation and Mowery shale soils in piñon-juniper and desert shrub communities. Elevations 5,240-5,800 feet amsl.	Low. No soils associated with the Duchesne, Dakota, or Wasatch formations or Mowery shales exist in the study area.	Yes. No potentially suitable habitat exists in the study area.	Atwood et al. 1991; BLM 2003.
Ownbey thistle	*Cirsium ownbeyi*	BLM	East flank Uinta Mountains. Sagebrush, juniper, and riparian communities. Elevations 5,500-6,200 feet amsl.	Low. The study area is not within the known range of this species.	Yes. Known occurrences of this species are greater than 50 miles from the study area.	Atwood et al. 1991.
Cleomella	*Cleomella palmeriana* var. *goodrichii*	BLM	Known only from clay hillside in Morrison Formation at Rainbow Draw near Island Park, Uintah County, Utah.	Low. The study area is not located within the known range of this species and does not contain suitable habitat	Yes. Eliminated based on habitat requirements and range.	UDWR 1998.
Untermann daisy	*Erigeron untermannii*	BLM	Endemic to the West Tavaputs Plateau in Duchesne County. Confined to main ridge tops and secondary ridges on calcareous shales, sandstones, and siltstone of the Uinta and Green River formations in piñon-juniper. Elevations 6,800 to 9,440 feet.	Low. The study area is located outside the species' elevational range.	Yes. Eliminated based on range.	Atwood et al. 1991; UDWR 1998.
Alcove bog-orchid	*Habenaria zothecina*	BLM	Endemic to Emery, Garfield, San Juan, Grand, and Uintah counties, Utah, and Moffat County, Colorado. Seeps, hanging gardens, and moist stream areas in desert scrub to oak brush communities. Elevations 4,360 to 8,690 feet.	None. Based on habitat requirements, the species is unlikely to occur in the area. Water in the Pariette Wetlands is too alkaline to support this species.	Yes. No potentially suitable habitat exists in the study area.	Atwood et al. 1991.

Table A-2 (Continued)

Common Name	Scientific Name	Status[1]	Habitat Association	Potential for Occurrence Within the Project Area and Cumulative Effects Area	Eliminated From Detailed Analysis	References
Rocky hymenoxys	*Hymenoxys lapidicola*	BLM	Endemic to Uintah County. Sandy soils on ledges or in crevices on precipitous to vertical sandstone slopes of the Weber Formation in ponderosa pine/manzanita and piñon-juniper. Elevations 6,000 to 8,110 feet.	Low. No Webber Formation outcrops are identified in the study area.	Yes. No potentially suitable habitat exists in the study area.	Atwood et al. 1991; UDWR 1998.
Huber's pepper-wort	*Lepidium huberi*	BLM	Endemic to ponderosa pine forests on the southeastern flank of the Uinta Mountains in Uintah County.	Low. The study area is not within the known range of this species.	Yes. Eliminated based on habitat requirements and range.	UDWR 1998.
Goodrich's blazing-star	*Mentzelia goodrichii*	BLM	Endemic to West Tavaputs Plateau in Duchesne County. Whitish calcareous shale of the Green River Formation along steep slopes/escarpments of Willow and Argyle canyons and Anthro Mountain area.	Low. The study area is not within the known range of this species.	Yes. Eliminated based on range.	UDWR 1998.
Goodrich penstemon	*Penstemon goodrichii*	SS	Lapoint-Tridell-Whiterocks area. Duchesne River Formation on blue gray to reddish bands of clay badlands. Elevations 5,590 to 6,215 feet.	Low. The study area is outside of the species' known range and does not contain suitable habitat.	Yes. Eliminated based on habitat requirements and range.	Atwood et al. 1991.
Pariette Bench hookless cactus	*Sclerocactus brevispinus*	BLM	Pariette Mine area eastward along an unnamed drainage to the confluence of the Pariette Draw and Castle Peak Draw in Duchesne County.	High. The species has been documented in the study area.	No.	UDWR 1998.
Duchesne green-thread	*Thelesperma caespitosum*	BLM	West Tavaputs Plateau in the Anthro Mountain area and eastward toward the head of Antelope Canyon in Duchesne County. White shale slopes and ridges of the Green River Formation.	Low. The study area is located outside of the species' known range.	Yes. Eliminated based on range.	UDWR 1998.

[1] BLM = BLM Sensitive Species
SS = Utah State Species of Concern
IPL = Informally petitioned for listing; formal petitioning by the USFWS has not occurred.

Table A-3
Important Migratory Birds That Could Potentially Occur within the Project Area

Species	Status[1]	Breeding Habitat	Winter Habitat
Golden eagle	BCC	Cliff; high desert scrub	High desert scrub
Ferruginous hawk	ST; BCC; PIF	Cliff; Pinon-juniper; shrub-steppe	Grassland
Swainson's hawk	SS; BCC	Agriculture; riparian	Migrant
Northern harrier	BCC	Wet meadows; high desert scrub	Agriculture
Peregrine falcon	BCC	Cliff; riparian	Wetland; riparian
Prairie falcon	BCC	Cliff; high desert scrub	Agriculture
Greater sage grouse	SS; BCC; PIF	Sagebrush; shrub-steppe	Shrub-steppe
Mountain plover	SS; BCC; PIF	High desert scrub	Migrant
American avocet	BCC; PIF	Wetland; playa	Migrant
Long-billed curlew	BCC; PIF	Grassland; Agriculture	Migrant
Western yellow-billed cuckoo	FC; ST; BCC; PIF	Riparian; grassland	Migrant
Short-eared owl	SS	Wetland; grassland	Agriculture
Burrowing owl	SS	High desert scrub; grassland	Migrant
Lewis's woodpecker	SS; BCC; PIF	Riparian	Northern oak
Pinon jay	BCC	Pinon-juniper	Pinon-juniper
Loggerhead shrike	BCC	High desert scrub; pinon-juniper	High desert scrub
Gray vireo	BCC; PIF	Pinon-juniper; northern oak	Migrant
Black-throated gray warbler	BCC; PIF	Pinon-juniper; mountain shrub	Migrant
Virginia's warbler	BCC; PIF	Pinon-juniper	Migrant
Common yellowthroat	SS	Wetland; riparian	Migrant
Brewer's sparrow	BCC; PIF	Shrubb-steppe; high desert scrub	Migrant
Sage sparrow	BCC; PIF	Shrub-steppe; high desert scrub	Low desert scrub

[1]BCC = Birds of conservation concern
PIF = Utah partners in flight birds
FC = Federal candidate
SS = Utah State species of concern
ST = Utah State threatened

APPENDIX B
RISK ASSESSMENT

APPENDIX B
Risk Assessment for Inland's Proposed 10-Inch Pipeline
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If Inland's proposed 10-inch pipeline (located in S31 T8S, R18E; Sections 31, 32, 33, 34, 35, and 36 T8S, R17E; and Sections 25 and 36 T8S, R16E) were to leak or rupture, there is a possibility that some liquids containing natural gas condensate could spill and drain into nearby washes. While the washes crossed by the pipeline are dry most of the time, flood events could potentially carry spilled natural gas condensate towards the Green River.

Federal agencies have expressed concerns for federally protected fish species in the Green River if a spill were to occur. Consequently, a risk assessment was conducted to evaluate the potential risk to these aquatic species from a release of natural gas condensate into these washes.

For fish and aquatic biota in the Green River, risk of adverse effects is a function of 1) the chance of exposure and 2) the concentration of the contaminant that could occur within the river as the result of a spill. Both of these factors were evaluated to determine the likelihood of adverse effects to endangered fish and other aquatic biota in the Green River.

Background

Because the pipeline would lie aboveground, it would be particularly susceptible to failure caused by outside force damage, including third-party damage, vandalism, and flooding. The greatest risk to Green River fish would be from a pipeline rupture where a large volume of condensate entered a flowing wash and was quickly transported to the Green River. Along most of the pipeline's length, it would be unlikely that appreciable amounts of condensate from a pipeline failure would reach the Green River via tributary washes due to the overland distance between the pipeline and the washes, coupled with the high evaporation rate of the condensate. Since risk from most pipeline segments would be substantially less than those discussed below for wash crossings, the remaining assessment focuses on wash crossings.

The proposed 10-inch pipeline route would cross seven washes. Pipe crossing two of these washes (Washes 1 and 2; **Table 1**) would be suspended above deeply incised channels. In contrast, the remaining wash channels are less clearly defined and pipe would be laid across the soil's surface. While the suspension of the pipeline above the two washes would minimize the chances of a pipeline failure due to severe flooding, the spanned portions of pipeline would be more susceptible to vandalism (e.g., shooting). While the remaining wash crossings would not be as vulnerable to vandalism as the two suspended crossings, these crossings still present an opportunity for condensate to be quickly transported downstream, if water is flowing in the

Table 1
Summary of Washes Crossed by the Proposed Pipeline and Downstream Distances to the Green River

Wash crossing	Downstream distance to Pariette Draw (miles)	Downstream distance to Green River (miles)	Total downstream distance (miles)	Travel time (hours)
Wash 1	4 intermittent 6 perennial	6 perennial	16	3.8
Wash 2	4 intermittent 6 perennial	6 perennial	16	3.8
Wash 3	4 intermittent 6 perennial	6 perennial	16	3.8
Wash 4	0	11 intermittent	11	2.6
Wash 5	2 intermittent 6 perennial	6 perennial	14	3.4
Wash 6	2 intermittent 6 perennial	6 perennial	14	3.4
Wash 7	0	7 intermittent	7	1.7
TOTAL				

wash. Consequently, the risk associated with a pipeline failure, regardless of cause, for all seven wash crossings was evaluated.

With the exception of Washes 4 and 7, the wash crossings drain directly into Pariette Draw and then into the Green River. Stream flow in these Pariette Draw tributary washes is intermittent before the flow becomes perennial. Once the flow becomes perennial, the water passes through a small wetland before entering Pariette Draw. Within Pariette Draw, streamflow first enters a detention pond and then a desiltation pond. When dry, these series of ponds take about a week to fill. When full, it is estimated these ponds retain water for a minimum of one day before water reaches the Green River (Faircloth 2003). In total, a release in an wash draining into Pariette Draw would travel in excess of 12 miles downstream of the pipeline crossing (more than 4 miles of intermittent and at least 8 miles of perennial) in order to reach the Green River (**Table 1**).

Wash crossings 4 and 7 empty into the Castle Peak Draw, which then drains into Pariette Draw above the detention and desiltation dams. As described in the paragraph above, streamflow would be detained by these dams before entering the Green River. Until it connects with Pariette Draw, Castle Peak Draw and its washes are intermittent through their entire lengths (**Table 1**). Condensate entering these intermittent washes would need to travel a minimum of 7 miles before reaching the dams along Pariette Draw.

While flannelmouth sucker larvae have historically utilized lower Pariette Draw as habitat, Pariette Draw is currently dry and a dam prevents the upstream movement of fish from the Green River into Pariette Draw. Flannelmouth sucker larvae may have previously colonized Pariette Draw using irrigation canals as conduits. Since agricultural practices in the area have recently changed, the canals are not used at this time. Consequently, flannelmouth suckers and threatened and endangered fish species are not expected to inhabit Pariette Draw. In contrast,

the confluence of Pariette Draw and the Green River is important rearing habitat for several threatened and endangered fish species and their young during periods of high flow.

Inland Oil Company has stated that the proposed pipeline would be occasionally pigged to remove free liquids (including natural gas condensate) from the pipeline. The maximum liquid loading before pigging would be 33 percent of the pipeline's volume. Based on this maximum liquid loading value, the maximum amount of condensate in the pipeline is estimated to be 7,177 gallons per mile of pipeline.

Toxicity Assessment

In order to estimate the potential concentration of natural gas condensate reaching Pariette Draw or the Green River, conservative assumptions (i.e., assumptions that are most likely to show an adverse effect) were made. If the results of this screening-level exposure assessment suggested the potential for toxicity, more realistic and less highly conservative assumptions could be made to further refine the assessment. Furthermore, the results from the screening risk assessment should be coupled with the exposure assessment, which calculates the likelihood of a spill reaching the Green River in sufficient quantities to cause toxicity. However, if the screening assessment indicates minimal risk to aquatic species, then it can be concluded that adverse effects are unlikely, regardless of conditions.

Assumptions:

1) Based on topographic contours, the amount of pipe that, if ruptured, could realistically be expected to enter into any of these washes was calculated to be 0.2 mile (0.1 mile on either side of an wash).

2) The distance of pipeline that could drain from the rupture (draindown distance) was estimated based on topographical map contours. The largest draindown distance for a single crossing was 1.4 miles.

3) The entire draindown volume was assumed to enter the wash. This assumption of 100 percent draindown is highly conservative. Research has shown that in only 6 percent of the historical spills did the actual draindown volumes account for as much as 50 percent of the potential draindown volume (California State Fire Marshal 1993). In 80 percent of pipeline spills, the volume released was less than 8.5 percent of the total volume in the pipe.

4) Due to occasional pigging of the pipeline by Inland, the pipeline would contain 33 percent liquids or less. If the pipeline contained 33 percent liquids within the 1.4-mile draindown distance, the maximum draindown volume of natural gas condensate that could be released into Pariette Draw tributaries at any one time would be approximately 10,000 gallons.

5) Approximately 85 percent of the pipeline liquids spilled would be natural gas condensate, and the remainder would be water. (This worst-case assumption was used for risk assessment in the Saddletree Draw environmental assessment, UTU-76880.) Based on a total release volume of 10,000 gallons, an estimated 8,500 gallons of natural gas condensate would be released into the wash.

6) To maximize concentrations in Pariette Draw and/or the Green River, it was assumed that 100 percent of the natural gas condensate spilled into a wash would reach Pariette Draw or the Green River without natural attenuation or breakdown of the natural gas condensate. This assumption is highly conservative given the rapid attenuation of natural gas condensate due to evaporation (**Table 2**), travel time to the Green River, and presence of an intervening wetland as well as detention and desiltation dams (as discussed above).

Table 2
Chemical Composition of Inland's Natural Gas Condensate

Liquid Components		Percent of Total Spilled Volume	Residence Time
Ethane	C2	0 *	Immediately becomes gas
Propane	C3	0 *	Immediately becomes gas
Butanes	C4	0 *	Immediately becomes gas
Pentanes	C5	71	Less than 8 hours
N-Hexane	C6	5	Less than 8 hours
Benzene	C6	0.3	Less than 8 hours
Toluene	C7	0.1	Less than 8 hours
EthylBenzene	C8	0.04	Less than 8 hours
Xylenes	C8	0.03	Less than 8 hours
Other paraffins **	C10 - C12	23	10 days or less

* While present in the pipeline as a liquid, the component immediately becomes gas upon release. As a result, the component is not considered as part of the spilled volume.
** Chemical analysis of condensate found no hydrocarbons larger than C12.

7) Natural gas condensate contains a variety of lightweight hydrocarbons (**Table 2**). Of these, the most toxic constituent to aquatic biota is the aromatic hydrocarbon fraction (benzene, ethylbenzene, toluene, xylenes), which would account for less than 0.5 percent of the volume of spilled material. For this screening assessment, acute toxicity was evaluated assuming the condensate consisted of twice the expected aromatic hydrocarbon concentration (i.e., 1 percent) and that the aromatic hydrocarbons were entirely solubilized within the water column.

8) Adverse effects associated with lightweight hydrocarbons in natural gas condensate would be limited to acute toxicity (i.e., mortality). Chronic effects were not evaluated since any condensate that would reach the river would have a short residence time in any single location due to rapid evaporation and downstream transport. Larger, straight-chained paraffins (C10 to C12 hydrocarbons) that may persist for more than a day are relatively insoluble and have low toxicity to aquatic species (NAS 1975; Robotham and Gill 1989).

Since the residence time for potential contamination would be short (i.e., minutes to hours) within the Green River and chronic toxicity would require exposure for a longer period (i.e., weeks to months), it is reasonable to assume chronic toxicity would not be an issue.

The acute toxicity threshold for aromatic hydrocarbons was set at 7.4 parts per million, based on the toxicity of benzene. This value was the lowest acute toxicity value for aromatic hydrocarbons for freshwater fish, invertebrates, and algae cited in the US Environmental Protection Agency's toxicity database (AQUIRE 1998). This acute toxicity threshold value would be protective of endangered fish species and other aquatic biota. To allow direct comparison with this value, concentrations of aromatic hydrocarbons within the Pariette Draw and Green River were calculated over a 96-hour exposure period, a timeframe equivalent to the duration of the acute exposure threshold value.

Pariette Draw

Using U.S. Geological Survey (USGS) gauging data (USGS station 09307300, Pariette Draw at Mouth near Ouray, Utah), stream discharge data for 9 years (from 1975 to 1984) was statistically summarized. Concentrations of aromatic hydrocarbons were calculated for a range of discharge rates, including the minimum-recorded streamflow and low flow (i.e., 10^{th} percentile).

Based on the conservative assumptions described above, the concentrations of aromatic hydrocarbons in Pariette Draw were calculated (**Table 3**). The estimated concentration of aromatic hydrocarbons was found to exceed the acute toxicity threshold, regardless of flow conditions. Consequently, if fish or other aquatic biota were present within upper Pariette Draw, acute toxicity could potentially occur.

Table 3
Comparison of the Estimated Aromatic Hydrocarbon Concentrations in Pariette Draw with Acute Toxicity Threshold Value (7.4 ppm)

Pariette Draw Discharge Rates	Streamflow (cfs)	Estimated Aromatic Hydrocarbon Concentration in Pariette Draw (ppm)	Exceeds toxicity threshold (7.4 ppm)?
Minimum Recorded	0	---	**Yes**
Low (10^{th} percentile)	4	560	**Yes**
Median	15	150	**Yes**
High (90^{th} percentile)	53	42	**Yes**

Note: Estimated concentrations in Pariette Draw based on a 8,500-gallon spill containing 1 percent aromatic hydrocarbons, which completely solubilizes and uniformly disperses throughout the entire water column.

Conservative assumptions, such as the lack of attenuation and draindown volume, would reduce the estimated level of toxicity to aquatic biota. For example, the entire spill volume is unlikely to reach lower Pariette Draw because the detention and desiltation ponds would retain

stream flows from the lower Pariette Draw and the Green River for more than one day. Since the condensate would largely evaporate in 8 hours (**Table 2**), concentrations of condensate after one day would be negligible. Similarly, the draindown volume that would actually be released likely would be a fraction of the volume used in this analysis (see Assumption #3 above). Thus, the actual exposure concentrations in Pariette Draw would be substantially lower than is conservatively estimated in **Table 3**.

Green River

Using USGS gauging data (USGS station 09261000, Green River near Jensen, Utah), stream discharge over the past 20 years was statistically summarized. Concentrations of aromatic hydrocarbons were calculated for a range of discharge rates.

Based on this analysis, concentrations of aromatic hydrocarbons in the Green River were calculated and are reported in **Table 4**. The estimated concentration of aromatic hydrocarbons was found to be less than the acute toxicity threshold, regardless of flow conditions. These results indicate that the probability of acute toxicity in the Green River would be low.

Table 4
Comparison of the Estimated Aromatic Hydrocarbon Concentrations in Green River with Acute Toxicity Threshold Value (7.4 ppm)

Green River Discharge Rates	Streamflow (cfs)	Estimated Aromatic Hydrocarbon Concentration in Green River (ppm)	Exceeds toxicity threshold (7.4 ppm)?
Minimum Recorded	828	2.7	**No**
Low (10^{th} percentile)	1,330	1.7	**No**
Median	2,640	0.8	**No**
High (90^{th} percentile)	9,234	0.2	**No**

Note: Estimated concentrations in the Green River based on a 8,500-gallon spill containing 1 percent aromatic hydrocarbons, which completely solubilizes and uniformly disperses throughout the entire water column.
cfs: cubic feet per second

As discussed above for Pariette Draw, the assumptions used to estimate concentrations of condensate in the Green River are highly conservative and the anticipated concentrations would be much lower than presented in **Table 4**. Concentrations would be lower because of the residence time (>1 day) in the Pariette Draw dams resulting in the evaporation of the majority of the condensate, particularly the aromatic compounds which are the most toxic fraction. Secondly, the draindown volumes used for the analysis overestimate the volume of condensate that is likely to enter the washes (see Assumption #3 above). Thus, the actual exposure concentrations in the Green River would be anticipated to be substantially lower than is conservatively estimated in **Table 4** and toxicity would not be predicted.

Exposure Assessment

As stated previously, most spills would not enter a wash due to the distance the condensate must travel overland and the rapid evaporation rate of the condensate. For this assessment, it was assumed that a release within 0.1 mile of a wash (a combined distance of 0.2 mile for both wash banks) could potentially enter the drainage and be transported downstream (see Assumption #1). Since there are seven wash crossings, there would be a total of 1.4 miles of pipeline where a release could enter a wash (this distance is unrelated to the draindown distance, which also is 1.4 miles). Based on historical national averages for pipeline incidents (0.001 incidents/mile-year; calculated from data in Office of Pipeline Safety [OPS] 2002), a pipeline spill that enter a wash would be predicted to occur once every 700 years (= 1/[0.001 spills/mile-year *1.4 miles]).

Once released into the environment, evaporation and other attenuation mechanisms would immediately begin to reduce the spill volume after natural gas condensate was released into the environment. Based on the chemical composition of the natural gas condensate that would be produced by Inland Oil Company, it is estimated that the majority of the released material would evaporate within 8 hours (**Table 2**).

Minimally, the pipeline crossings are at least 7 miles upstream of the ponds in lower Pariette Draw (below the detention and desiltation dams), and 14 miles upstream of the Green River through the Pariette Draw drainage (**Table 1**). In all cases, a relatively large rainstorm event in the drainage would be required to transport the condensate to the lower Pariette Draw ponds or the Green River. Given the volatility of the condensate, a large rainstorm event would need to coincide within a few hours of the spill, otherwise the vast majority of the spilled material would have already evaporated. For this assessment it was assumed that a large storm event occurred at the same time as the pipeline failure.

It should be noted that it is unlikely that the storm event would cause a pipeline failure at the spanned wash crossings since the pipeline would be elevated above the floodwaters. Pipelines located on the ground's surface, however, would be exposed to the effects of floodwaters and could potentially fail from flooding. Nevertheless, historical data from the OPS suggest that only 2 percent of all pipeline failures can be attributed to natural forces, including flooding.

Regardless of the mode of failure, it was assumed that the storm event would fill the washes with a sufficient volume of water to transport the released condensate downstream into Pariette Draw. Because these washes are classified as intermittent, they would likely contain this volume of water no more than 10 percent of the time. Consequently, the combined probability of a pipeline spill draining into the washes during a stream flow event of sufficient size to carry condensate to Pariette Draw or the Green River would be once every 7,000 years (i.e., = 700 years/10 percent chance of streamflow).

It is estimated that the velocity of a flood event capable of transporting spilled material to the Green River would be about 6 ft/sec. As a result, the travel time to the Green River, which is at least 7 miles away, would take 1.7 hours at a minimum (**Table 1**). Given the volatility of the natural gas condensate, the spill volume would be reduced by at least 20 percent by the time the floodwaters reached the Green River. Larger floods could reduce travel times, but would also dilute the condensate, thereby reducing its potential toxicity.

Once the condensate reached the perennial reaches of Pariette Draw, the intervening wetland and sediment detention pond along the Pariette Draw drainage would intercept floodwaters and any associated condensate prior to reaching important fish habitat in the lower Pariette Draw and its confluence with the Green River. The wetland, detention dam, and desiltation dam would increase travel time and enhance evaporative losses as the condensate spread across the water's surface. The amount of condensate that would reach the Green River would be reduced in proportion to its increased travel time. If the travel time reached 8 hours or more, the amount of condensate reaching Pariette Draw or the Green River would be negligible and acute toxicity would not be anticipated in either location.

Pariette Draw

Ignoring the residence time within the Pariette Draw detention and desiltation dams (see Background above), the amount of condensate that could potentially cause toxicity to aquatic biota in lower Pariette Draw under low flow conditions would be 112 gallons (1 percent of the total draindown volume). Assuming no attenuation, a number of events would need to occur simultaneously for the condensate to reach the Green River.

- Pipeline spill (once in 715 years);

- Sufficient water present in intermittent portions of the washes to facilitate transport (10 percent of the time); and

- Draindown volume of sufficient size (1 percent) to approach toxicity levels (conservatively assumed to be a 100 percent chance of occurrence).

Given these parameters, the chance of a pipeline spill of sufficient size that could cause toxicity in Pariette Draw would occur once in 7,000 years. If larval fish are present at the confluence of Pariete Draw and the Green River only during very high flows (10 percent of the time), the chance of fish being present during a spill would be once in 70,000 years.

Green River

The likelihood of a spill event capable of reaching the Green River would be remote, particularly since the larval fish only utilize the confluence of Pariette Draw and the Green River during high

flows. As estimated above, the likelihood of such an event would be once in at least 70,000 years. Even if the event occurred, the event is unlikely to cause adverse effects to aquatic biota. Estimated concentrations in the Green River did not exceed toxic thresholds, regardless of streamflows and presumed maximum draindown volume. Moreover, travel time from the pipeline crossing to the Green River would be at least 1 day due to the detention and desiltation dams in the Pariette Draw (Faircloth 2003). Since the condensate would largely evaporate within 8 hours of release, the amount of condensate reaching the river would be negligible. Thus, risk to fish in the Green River is remote.

Risk Assessment Summary

This assessment evaluated the risk of toxic effects on endangered species of the Green River. The chance of a spill entering a tributary wash is once in 700 years. When combined with the probability of having sufficient stream flow to transport a release to the Green River, the risk is once every 7,000 years. If a spill were to occur and condensate were transported towards the Green River, time and distance would allow the majority of condensate to evaporate. The presence of intervening wetland, detention dam, and desiltation dams would further increase the travel time and enhance evaporation rates. Finally, even if the conservative assumption were made that the entire spilled volume reached the river, adverse effects to aquatic biota in the Green River still would not be anticipated.

Mitigation: None.

Unavoidable Adverse Impacts: The potential for appreciable amounts of condensate to reach the Green River is low. Even if condensate were to reach the river, the concentrations would be below acute toxicity levels. Consequently, the likelihood of adverse effects to special status species is very low.

Cumulative Impacts: Given that the probability of a pipeline release and the predicted magnitude of impacts are remote, unmitigated or unavoidable adverse impacts to special status fish species from the Proposed Action would have minimal cumulative impacts.

There is the potential that fish may be directly and indirectly affected from other oil and gas spills from other nearby pipelines. The risk posed by each pipeline depends primarily on the pipeline's diameter, the type of product transported, likely spill volume size, and its distance to the Green River. Since each new pipeline wash crossing adds to the potential for adverse effects on endangered fish and other aquatic fauna, cumulative risk of adding the proposed new, 10-inch pipeline to risk posed by any existing pipelines was evaluated. The analysis follows the same assumptions described above.

At this time, there is one other Inland 10-inch natural gas condensate pipeline in the immediate vicinity. The existing pipeline contains the same natural gas and condensate that would be

transported by the new pipeline. Once the new pipeline was built, the volume contained in the existing pipeline would be split between the pipelines. According to Inland, the new pipeline would eventually replace portions of the existing pipeline. Since the volume of material analyzed for the proposed pipeline represents the total volume that would be transported by the two pipelines, the risk would remain the same as previously described. Thus, cumulative impacts to aquatic biota in the Green River from natural gas condensate spills from these pipelines are unlikely.

Effects to Critical Habitat: No effects to critical habitat would occur.

Effects to Special Status Species: The impact finding for the Proposed Action on the Colorado pikeminnow and razorback sucker (and critical habitats associated with these species) is categorized as "may affect, not likely to adversely affect."

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REASONING AND CALCULATIONS FOR LINE LIQUIDS LOADING (10" gathering line)

C5+ liquids (Condensate) condense in cold lines, the volume of condensation is a function on the gas composition, flow rate and temperature.

Average gas composition:

	MCF	DRY BTU	CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7+	GRAV
	209,687	1,185	0.240	0.560	84.795	8.388	3.822	0.565	0.993	0.237	0.249	0.115	0.037	0.674
	210,680	1,195	0.237	0.565	84.463	8.358	3.917	0.587	1.057	0.273	0.298	0.168	0.076	0.680
	266,467	1,204	0.228	0.551	84.153	8.330	4.067	0.601	1.092	0.294	0.329	0.213	0.134	0.686
	234,375	1,204	0.218	0.560	84.747	7.629	4.059	0.602	1.096	0.307	0.349	0.249	0.183	0.686
	240,351	1,206	0.212	0.565	84.371	8.166	3.929	0.587	1.069	0.302	0.346	0.254	0.199	0.687
	249,378	1,208	0.218	0.556	84.168	8.266	4.026	0.598	1.089	0.305	0.346	0.246	0.181	0.688
	231,067	1,207	0.220	0.553	84.092	8.337	4.089	0.060	1.092	0.300	0.337	0.227	0.150	0.687
	234,508	1,200	0.219	0.549	84.350	8.301	4.038	0.591	1.059	0.281	0.309	0.191	0.112	0.683
	202,689	1,183	0.213	0.548	84.967	8.263	3.934	0.546	0.946	0.219	0.225	0.100	0.036	0.672
	202,542	1,179	0.231	0.579	85.383	8.000	3.745	0.539	0.909	0.222	0.231	0.115	0.045	0.669
	192,674	1,184	0.226	0.551	84.972	8.199	3.932	0.561	0.957	0.227	0.237	0.110	0.039	0.673
Average	234,572	1,201	0.225	0.559	84.398	8.211	3.987	0.514	1.070	0.288	0.322	0.210	0.137	0.684

Maximum liquids drop-out is:

CALCULATIONS BELOW BASED ON:	9,333,733	SCFD TOTAL GAS MOVING THROUGH LINE											Totals
		CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6	C7+	
MW	19.731	44.01	34.01	16.04	30.07	44.09	58.12	58.12	72.15	72.15	86.17	99.00	
SCF/#mole	379												
MSCF/month	280,012												
#moles/month	738,818	1,707	4,278	630,825	59,105	27,669	3,982	6,716	1,640	1,707	850	332	738,811
#/month		75,110	145,501	10,118,431	1,777,300	1,219,914	231,447	390,325	118,339	123,136	73,214	32,914	14,305,632
sp gr					0.546	0.585	0.600	0.600	0.621	0.630	0.656	0.680	
#/month C5+ liquids									118,339	123,136	73,214	32,914	347,603
gal/month C5+ liquids													**26,289**

THE CALCULATIONS ABOVE SHOW THAT THE MAXIMUM AVAILABLE CONDENSATE LIQUIDS FLOWING THROUGH THE 10" LINE WOULD BE: **26,289** **GALLONS PER MONTH**
848 **GALLONS PER DAY**

The pipeline ID is:	10.048 inches		r =	0.42 ft
The pipeline volume per linear foot is:	0.55 cu ft	or		4.119 gal
The maximum liquid loading before pigging is:	33%	or		1.359 gal per foot

TOTAL MAXIMUM VOLUME OF CONDENSATE IN **5280** **FEET OF LINE IS:** **7177** **GALLONS**

CALCULATIONS SHOW THAT ON VERY COLD DAYS WHERE CONDENSATION WOULD BE AT A MAXIMUM, PIGGING WILL BE BENEFICIAL ON A REGULAR BASIS

APPENDIX C
CULTURAL RESOURCE TABLE

Table C-1
Cultural Resources Sites Associated with the Proposed Action and Avoidance Strategy

Site Number	NRHP Assessment	Management/ Jurisdiction[1]	Site Type	Previously Recorded?	Avoidance Procedures/ Distance to ROW
42Dc426	Eligible, Criterion D	SITLA	Prehistoric Lithic Scatter/Campsite	Yes	South side of site boundary is fenced. Original proposed ROW rerouted to road. Pipeline would be built in existing road and put in place with a boom. Site crossed by ROW.
42Dc854	Eligible, Criterion D	BLM	Prehistoric Campsite	Yes	Located outside of the pipeline corridor. Avoided by the Proposed Action/within 50 feet of ROW.
42Dc983	Eligible, Criteria A and D	BLM and SITLA	Historic Pariette Mine	Yes	Located outside of the pipeline corridor. Avoided by the Proposed Action/400 feet north of ROW.
42Dc1377	Not Eligible	BLM	Prehistoric Lithic Procurement Locality	Yes	Located outside of the proposed ROW corridor. Avoided by the Proposed Action/100 feet north of ROW.
42Dc1378	Not Eligible	BLM	Prehistoric Lithic Procurement Locality	Yes	Located outside of the proposed ROW corridor. Avoided by the Proposed Action/400 feet north of ROW.
42Dc1379	Eligible, Criterion D	BLM	Prehistoric Lithic Scatter	Yes	Located outside of the pipeline corridor. Avoided by the Proposed Action/400 feet north of ROW.
42Dc1380	Eligible, Criterion D	BLM	Prehistoric Temporary Camp	Yes	Proposed pipeline is located on the north side of the access road; the site is located on the south. Avoided by the Proposed Action/within 50 feet of ROW.
42Dc1559	Eligible, Criterion D	SITLA	Prehistoric Temporary Camp	No	Site parallels an existing pipeline and access road and exhibits disturbed areas. Sensitive portion of the site is fenced off from the proposed ROW. Equipment would be restricted to previously disturbed areas outside of the fenced boundaries. Site crossed by ROW.
42Dc1560	Not Eligible	SITLA	Historic U.S. Land Marker	No	Located outside of the proposed ROW corridor. Avoided by the Proposed Action/400 feet northeast of ROW.
42Dc1561	Eligible, Criterion A	SITLA	Historic Abandoned Mine (connected to Pariette Mine Complex)	No	Site is fenced off on its southern portion from the proposed ROW. ROW rerouted to avoid site. Fifty feet north of ROW.
42Dc1562	Eligible, Criterion D	SITLA	Prehistoric Lithic Scatter/Historic	No	Site lies on south side of road. Proposed ROW lies on north.

Table C-1 (Continued)

Site Number	NRHP Assessment	Management/ Jurisdiction[1]	Site Type	Previously Recorded?	Avoidance Procedures/ Distance to ROW
			Temporary Camp		Site is avoided by Proposed Action/within 50 feet of ROW.
42Dc1563	Eligible, Criterion D	BLM	Prehistoric Lithic Scatter/ Historic Mining Exploration	No	Site lies on south side of road. Proposed ROW lies on north / site lies within 50 feet of ROW.
42Un2453	Not Eligible	BLM and SITLA	Prehistoric Cobble Testing Quarry	Yes	Site recommended as not eligible. Site would be crossed by ROW.
42Un2454	Not Eligible	SITLA	Prehistoric Cobble Testing Quarry	Yes	Site is located on the north side of the road; the proposed ROW is located on the south side/site lies within 50 feet of ROW.
42Un2455	Not Eligible	SITLA	Prehistoric Cobble Testing Quarry	Yes	Site is located on the north side of the road; the proposed ROW is located on the south side/site lies within 50 feet of ROW.
42Un2456	Eligible, Criterion D	BLM and SITLA	Prehistoric Lithic Scatter/ Cobble Quarry/ Historic Trash Scatter	Re-recorded	Site is fenced off from the proposed ROW along its east side, which is the intact portion of the site. The site's west side is extensively disturbed. Proposed ROW would run in disturbed road ditch outside of intact areas. Site is crossed by ROW.
42Un2532	Not Eligible	BLM and SITLA	Prehistoric Lithic Scatter	Yes	Site would be crossed by proposed ROW.
42Un2534	Not Eligible	BLM	Prehistoric Rock Shelter/ Alcove	Yes	Site would be crossed by proposed ROW.
42Un2537	Eligible, Criterion D	BLM	Prehistoric Open Occupation	Yes	Site is fenced off on its northern boundary. Proposed ROW would be located in existing roadway ditch and would avoid crossing the site. Site lies within 50 feet of ROW.
42Un2568	Eligible, Criterion D	BLM	Prehistoric Lithic Scatter	Re-recorded	An exclusion area has been fenced off along the site boundaries. The pipeline would be built in the existing road for approximately 300 feet and a boom would be utilized to lower it into place to avoid affecting the site. Site is crossed by the ROW.
42Un2947	Not Eligible	SITLA	Prehistoric Lithic Procurement Locality	Yes	Located outside of the proposed ROW corridor. Avoided by the Proposed Action/site lies approximately 300 feet east of ROW.
42Un2948	Eligible, Criterion D	SITLA	Prehistoric Lithic Procurement Locality	Yes	Located outside of the proposed ROW corridor. Avoided by the Proposed Action/site lies about 1,200 feet east of ROW.
42Un2949	Eligible, Criterion D	SITLA	Prehistoric Lithic Scatter	Yes	Located outside of the proposed ROW corridor.

Table C-1 (Continued)

Site Number	NRHP Assessment	Management/ Jurisdiction[1]	Site Type	Previously Recorded?	Avoidance Procedures/ Distance to ROW
					Avoided by the Proposed Action/site lies 0.5 mile east of ROW.
42Un2957	Not Eligible	SITLA	Prehistoric Lithic Scatter	Yes	Located outside of the proposed ROW corridor. Avoided by the Proposed Action/site lies about 1 mile east of ROW.
42Un2963	Not Eligible	BLM	Prehistoric Lithic Scatter	Yes	Located outside of the proposed ROW corridor. Avoided by Proposed Action/site lies about 200 feet north of the ROW.

[1]BLM = Bureau of Land Management.
SITLA = State of Utah School and Institutional Trust Land Administration.

Source: Montgomery Archaeological Consultants 2003.